CORRECTIONS MADE :
STATIONS POSITIONS HP

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA

CCOFI Cruise 5802
7-24 February 1958

and

CCOFI Cruise 5803
27 February - 21 March 1958

SIO Reference 59-8
1 February 1959

UNIVERSITY OF CALIFORNIA

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CCOFI CRUISE 5802
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Sponsored by

Marine Research Committee

SIO Reference 59-8
1 February 1959

Approved for distribution

Roger Revelle

Roger Revelle, Director

CONTENTS

INTRODUCTION

The data presented in this report were collected on the one hundred and fifth and one hundred and sixth consecutive cruises of the California Cooperative Oceanic Fisheries Investigations program. The R/V Paolina-T and the R/V Stranger of the Scripps Institution participated in the one hundred and fifth cruise while the R/V Black Douglas of the U. S. Bureau of Commercial Fisheries and the R/V Stranger of the Scripps Institution participated in the one hundred and sixth cruise.

The data are tabulated at observed depths, and the interpolated and computed values are tabulated at standard depths. They are accompanied by charts of horizontal distribution. The presentation of data in this report does not constitute publication; however, the data contained in this report have been carefully edited and no modifications should be necessary before final publication.

STANDARD PROCEDURES

Processing of the data was carried out using the method described by Klein.[1/] Certain approximations have been introduced for the determination of the integrated pressure terms which may result in errors whose maximum values are less than 0.5 dynamic centimeter at 0 over 200 decibars, 1.0 dynamic centimeter at 0 over 500 decibars, and 2.0 dynamic centimeters at 0 over 1000 decibars. The 125-meter level was introduced into the integration to obtain greater accuracy in the determination of ΔD. The interpolated values at 125 meters are not tabulated.

To indicate degree of accuracy, temperatures are recorded in tenths of a degree when obtained by bucket thermometer, thermograph or bathythermograph, while temperatures from reversing thermometers are recorded in hundredths of a degree. Extrapolated values and values interpolated between remote observations are entered within parentheses. A hyphen is used to indicate a missing observed value. The time is the time of messenger release. When more than one cast was made on a station, each messenger time and wire angle is given in the order of increasing depth. A line is left blank between the observed data of each cast.

1/ Klein, Hans T. A new technique for processing physical oceanographic data. MS. Contribution from the Scripps Institution of Oceanography, New Series, No. 000.

FOOTNOTES

Standard footnotes which appear frequently are "loose bottle cap" and "possible evaporation." To avoid any confusion as to their meaning the following explanation is included.

Laboratory personnel, before titrating the salinity samples, note any possible imperfections in the sealing of the bottles as follows:

Loose bottle cap:	The cap is definitely loose so that it could be moved with very little applied pressure. The salinity values obtained from these samples may be usable depending on time and/or conditions of storage.
Possible evaporation:	Either the cap was sealed with less than usual pressure, the bottle edge chipped, the rubber washer cracked, or the bale broke on opening, etc.

Use of the above values in interpolation depends upon consistency with other values of salinity and other properties, and these footnotes are supplemented with "falls on property curve" or "does not fall on property curve," depending upon whether the property curve was drawn through the value or not.

In addition to standard footnotes, three special notations are used without footnotes because their meaning is always the same.

To indicate a premature or a delayed reversal of the water-sampling device which results in certain depth and property errors, the following notation is used.

p: pretrip or posttrip.

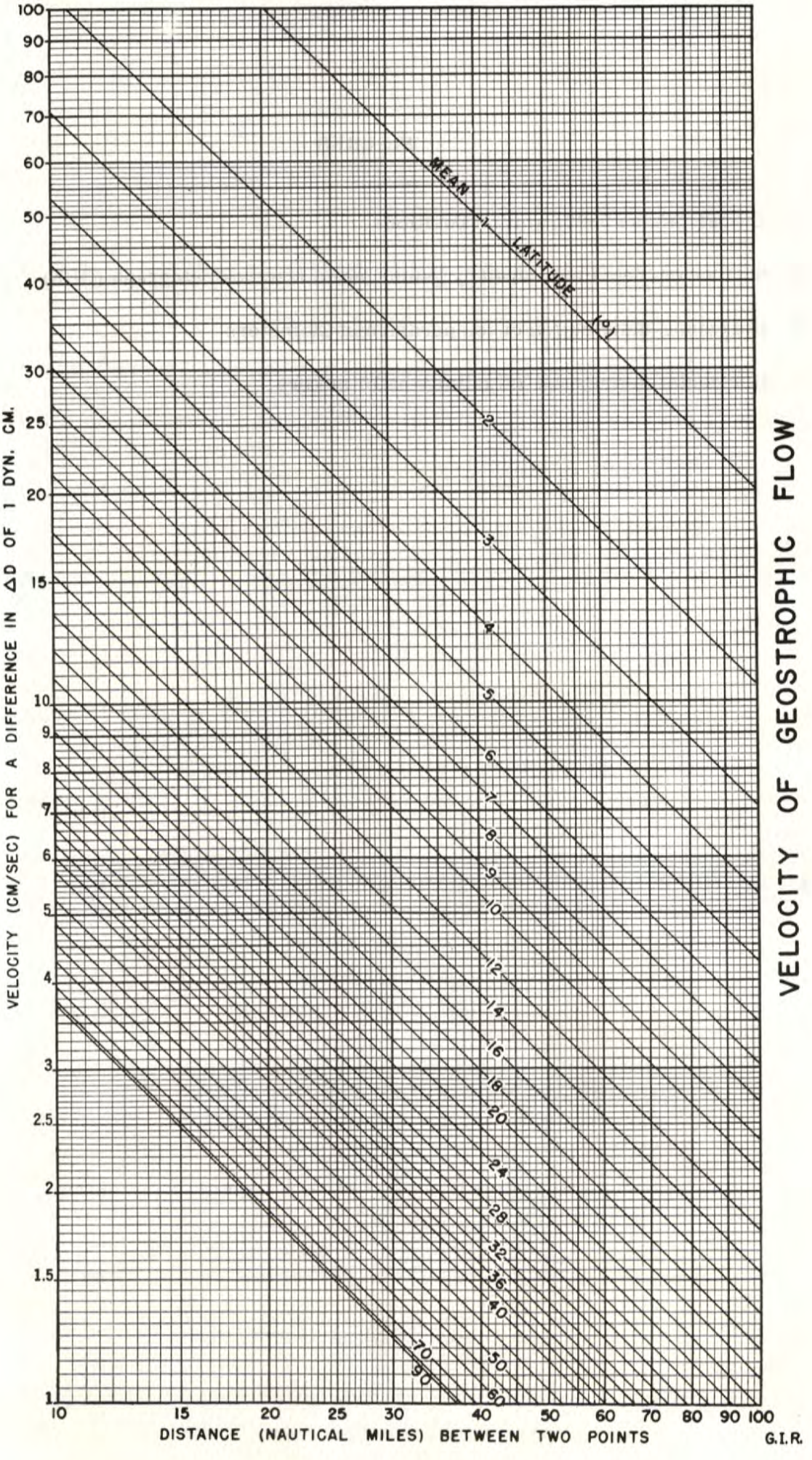
Values which are not drawn through because they seem to be in error without apparent reason are indicated by one of the following notations.

r: rejected value (value seems to be definitely wrong),

u: uncertain value (value may be correct; occasionally it can influence the drawing of the property curve).

FORMAT

These data are typed in the format of the University of California Press publication, "Oceanic Observations of the Pacific." So that these pages can be used as copy for the 1958 volume, the first page of the Cruise 5802 data is numbered 48; Cruise 5803, 61.


VELOCITY OF GEOSTROPHIC FLOW
VELOCITY (CM/SEC) FOR A DIFFERENCE IN ΔD OF 1 DYN. CM.
DISTANCE (NAUTICAL MILES) BETWEEN TWO POINTS
MEAN LATITUDE (°)
1
2
3
4
5
6
7
8
9
10
12
14
16
18
20
24
28
32
36
40
50
60
70
90
100
90
80
70
60
50
40
30
25
20
15
10
9
8
7
6
5
4
3
2.5
2
1.5
1
10
15
20
25
30
40
50
60
70
80
90
100
G.I.R.

FIGURES

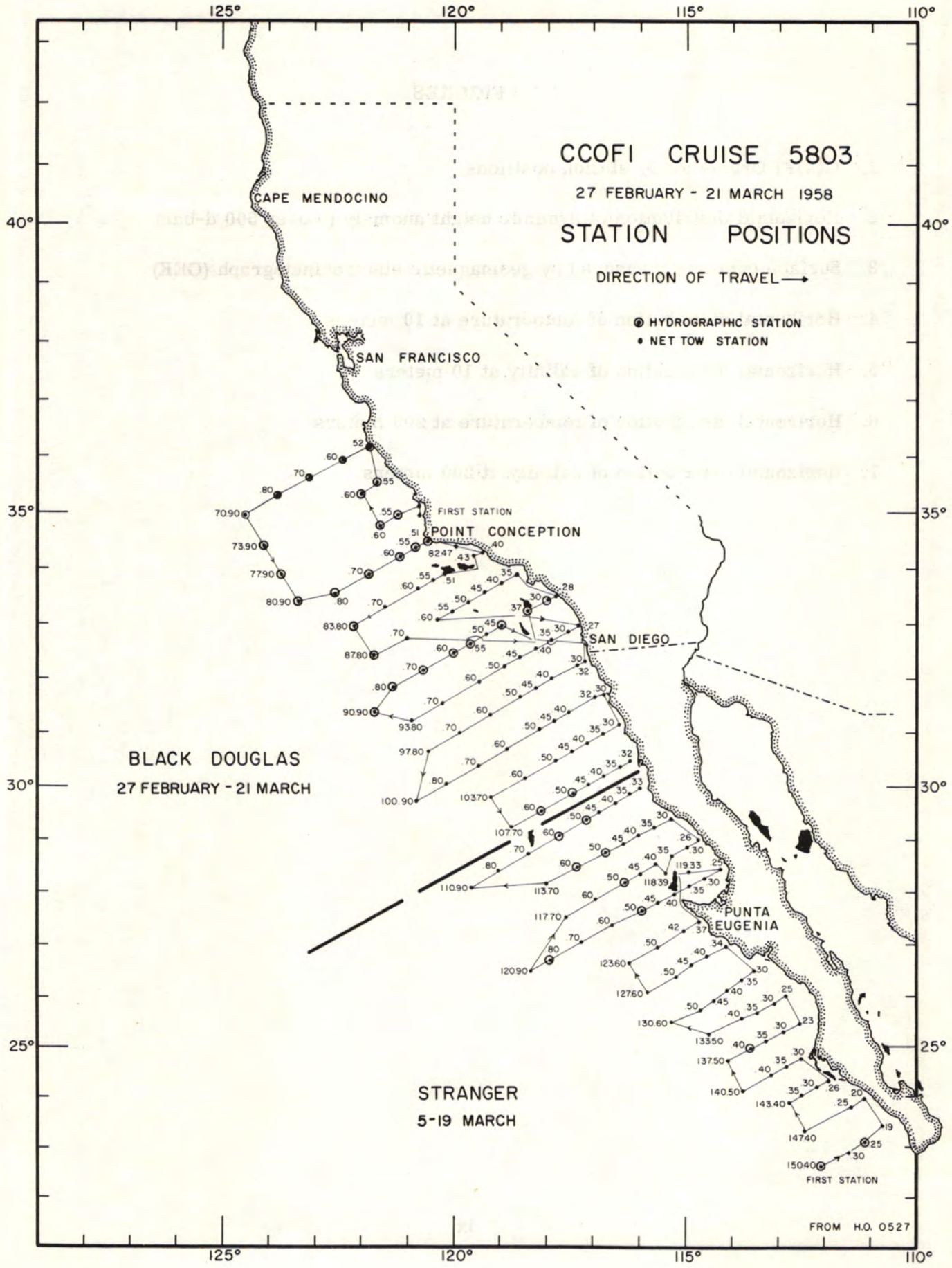

CCOFI CRUISE 5803
27 FEBRUARY - 21 MARCH 1958
STATION POSITIONS
DIRECTION OF TRAVEL
HYDROGRAPHIC STATION
NET TOW STATION
CAPE MENDOCINO
SAN FRANCISCO
FIRST STATION
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
BLACK DOUGLAS
27 FEBRUARY - 21 MARCH
STRANGER
5-19 MARCH
FIRST STATION
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°

FIGURE 1

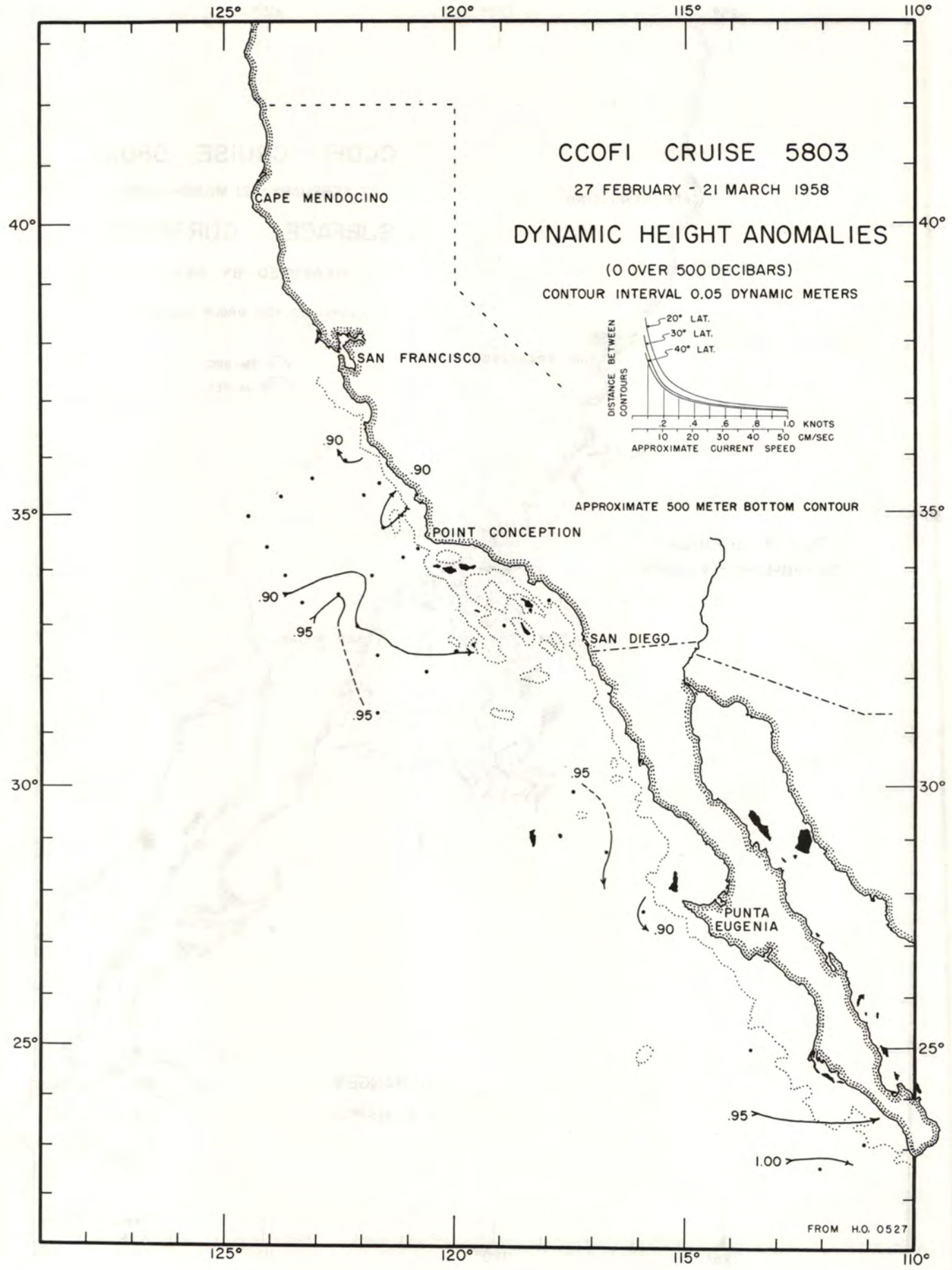

CCOFI CRUISE 5803
27 FEBRUARY - 21 MARCH 1958
DYNAMIC HEIGHT ANOMALIES
(0 OVER 500 DECIBARS)
CONTOUR INTERVAL 0.05 DYNAMIC METERS
20° LAT.
30° LAT.
40° LAT.
DISTANCE BETWEEN CONTOURS
.2 .4 .6 .8 1.0 KNOTS
10 20 30 40 50 CM/SEC
APPROXIMATE CURRENT SPEED
APPROXIMATE 500 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
.90
.90
.90
.95
.95
.95
.90
.95
1.00
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°

FIGURE 2

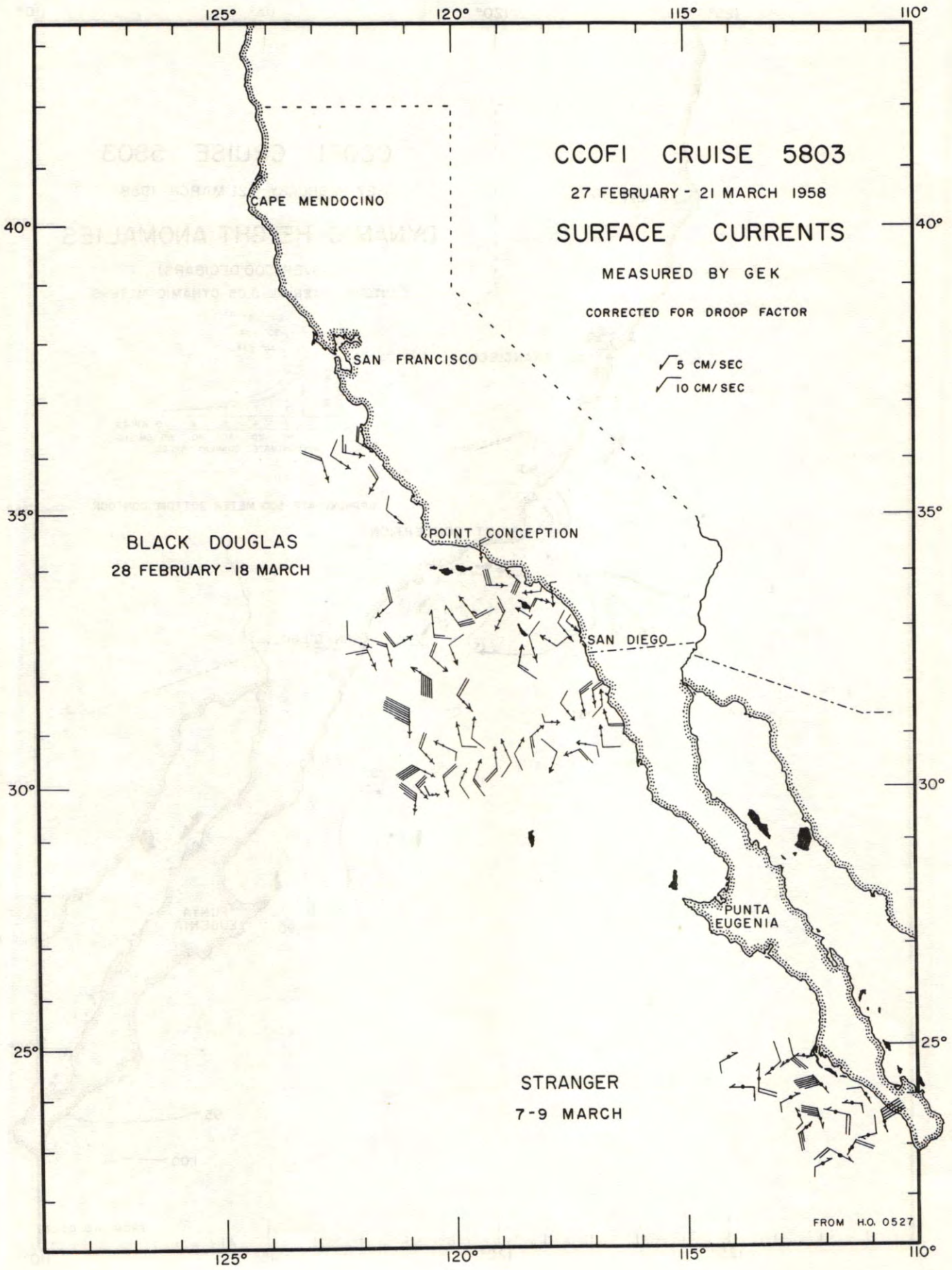

CCOFI CRUISE 5803
27 FEBRUARY - 21 MARCH 1958
SURFACE CURRENTS
MEASURED BY GEK
CORRECTED FOR DROOP FACTOR
5 CM/SEC
10 CM/SEC
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
BLACK DOUGLAS
28 FEBRUARY - 18 MARCH
STRANGER
7-9 MARCH
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°

FIGURE 3

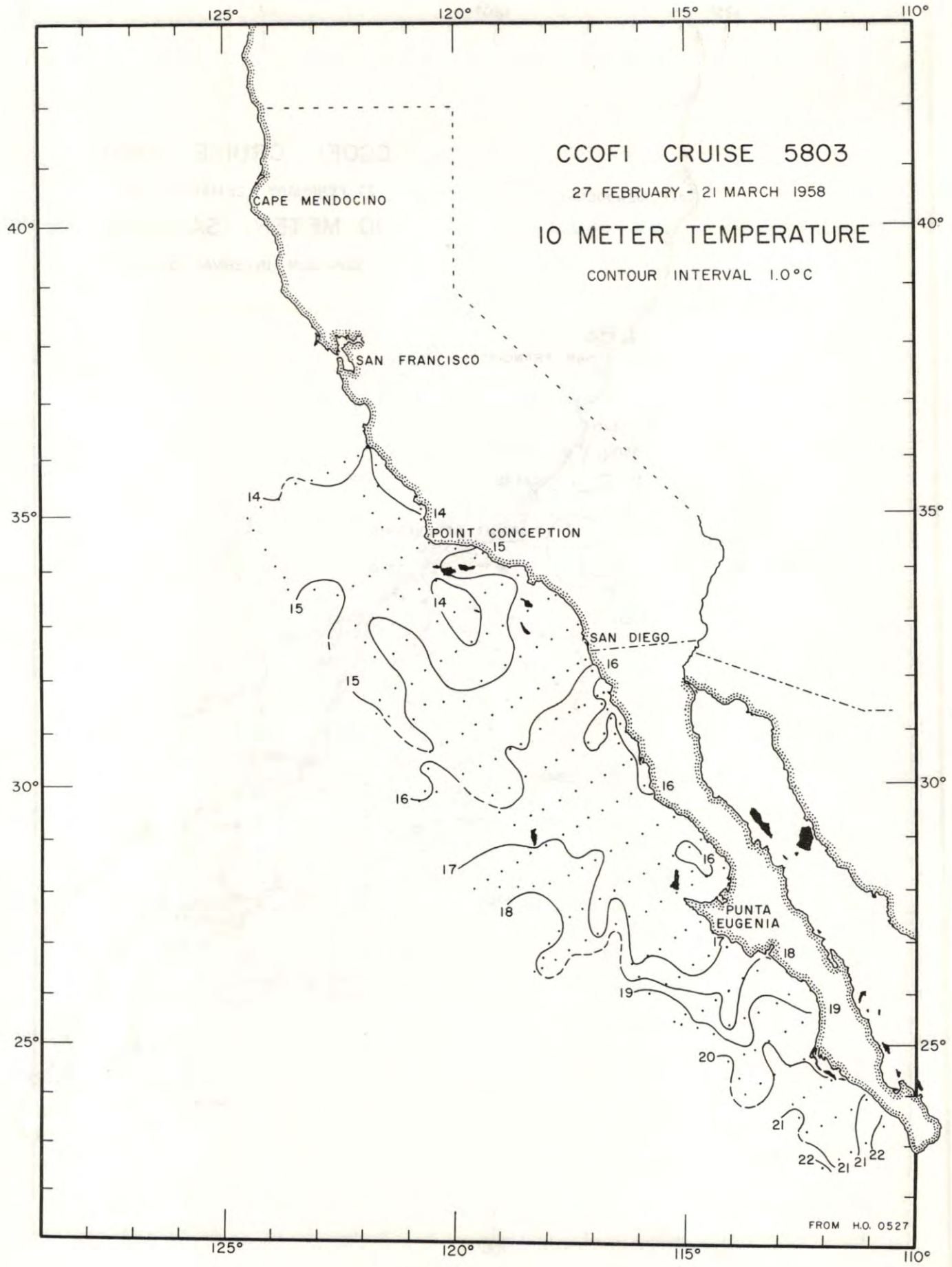

CCOFI CRUISE 5803
27 FEBRUARY - 21 MARCH 1958
10 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°

FIGURE 4

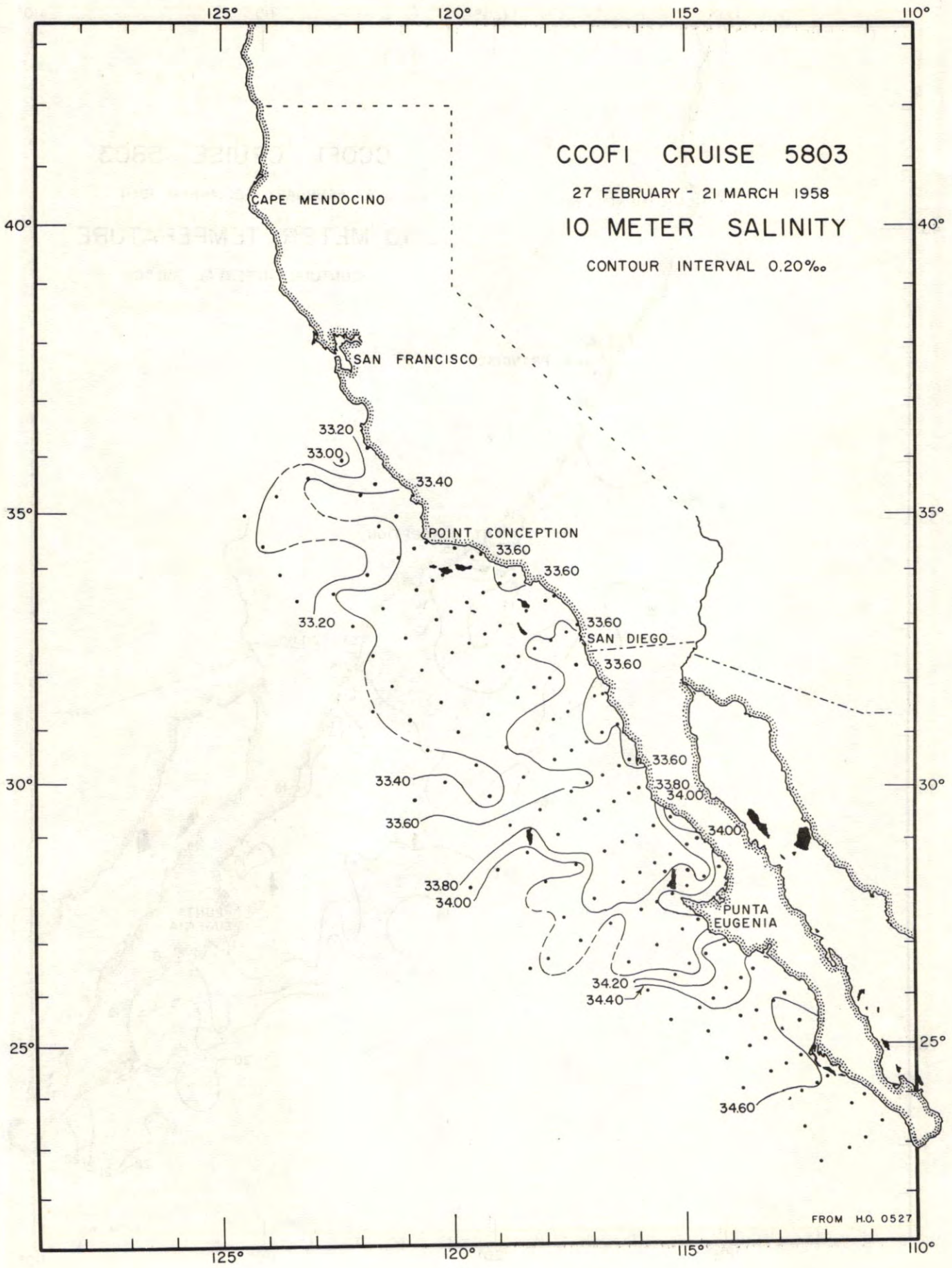

CCOFI CRUISE 5803
27 FEBRUARY - 21 MARCH 1958
10 METER SALINITY
CONTOUR INTERVAL 0.20‰
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
33.20
33.00
33.40
33.60
33.80
34.00
34.20
34.40
34.60
125°
120°
115°
110°
40°
35°
30°
25°
FROM H.O. 0527

FIGURE 5

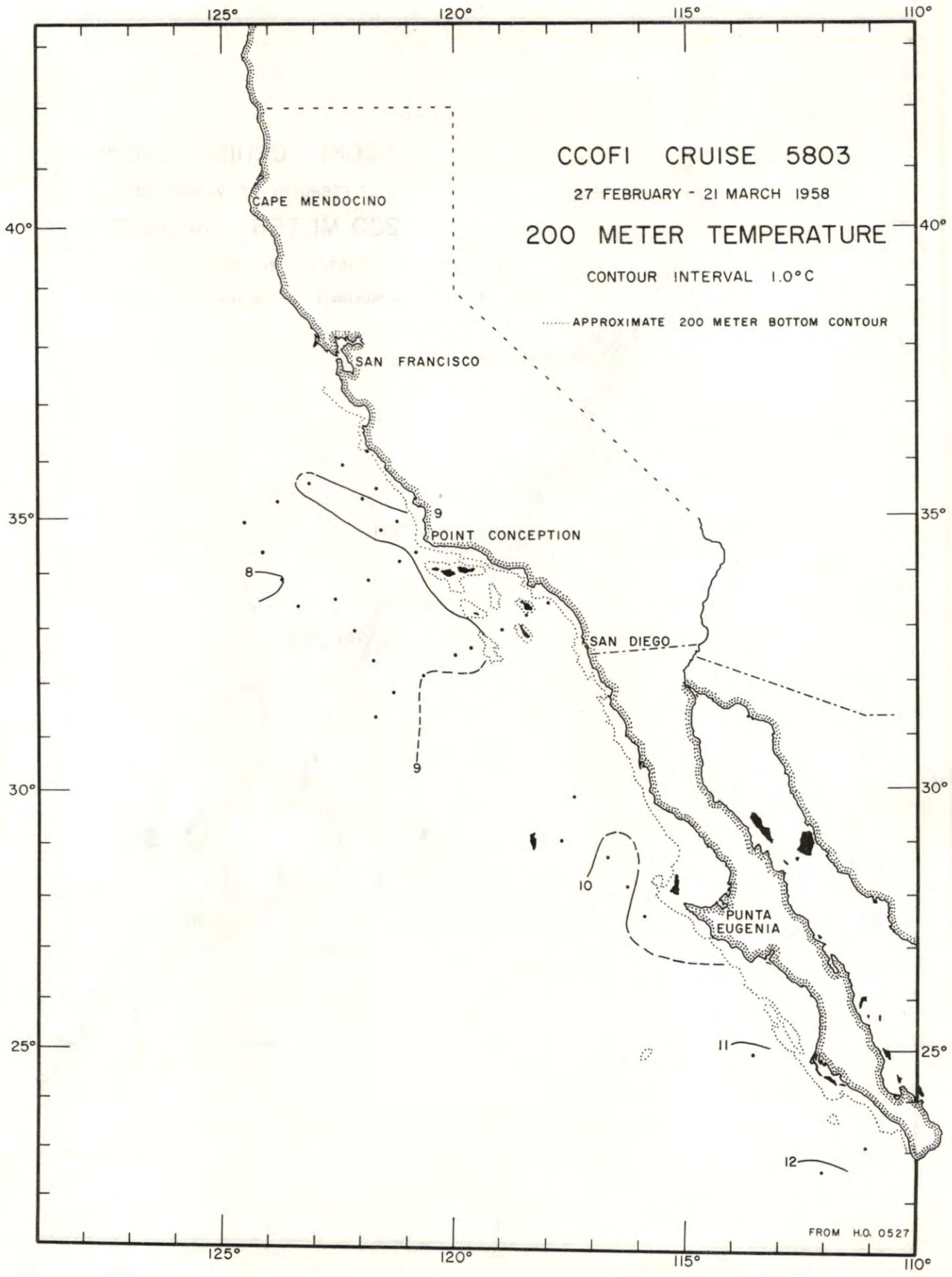

CCOFI CRUISE 5803
27 FEBRUARY - 21 MARCH 1958
200 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
FROM H.O. 0527
125°
120°
115°
110°
40°
35°
30°
25°
8
9
9
10
11
12

FIGURE 6

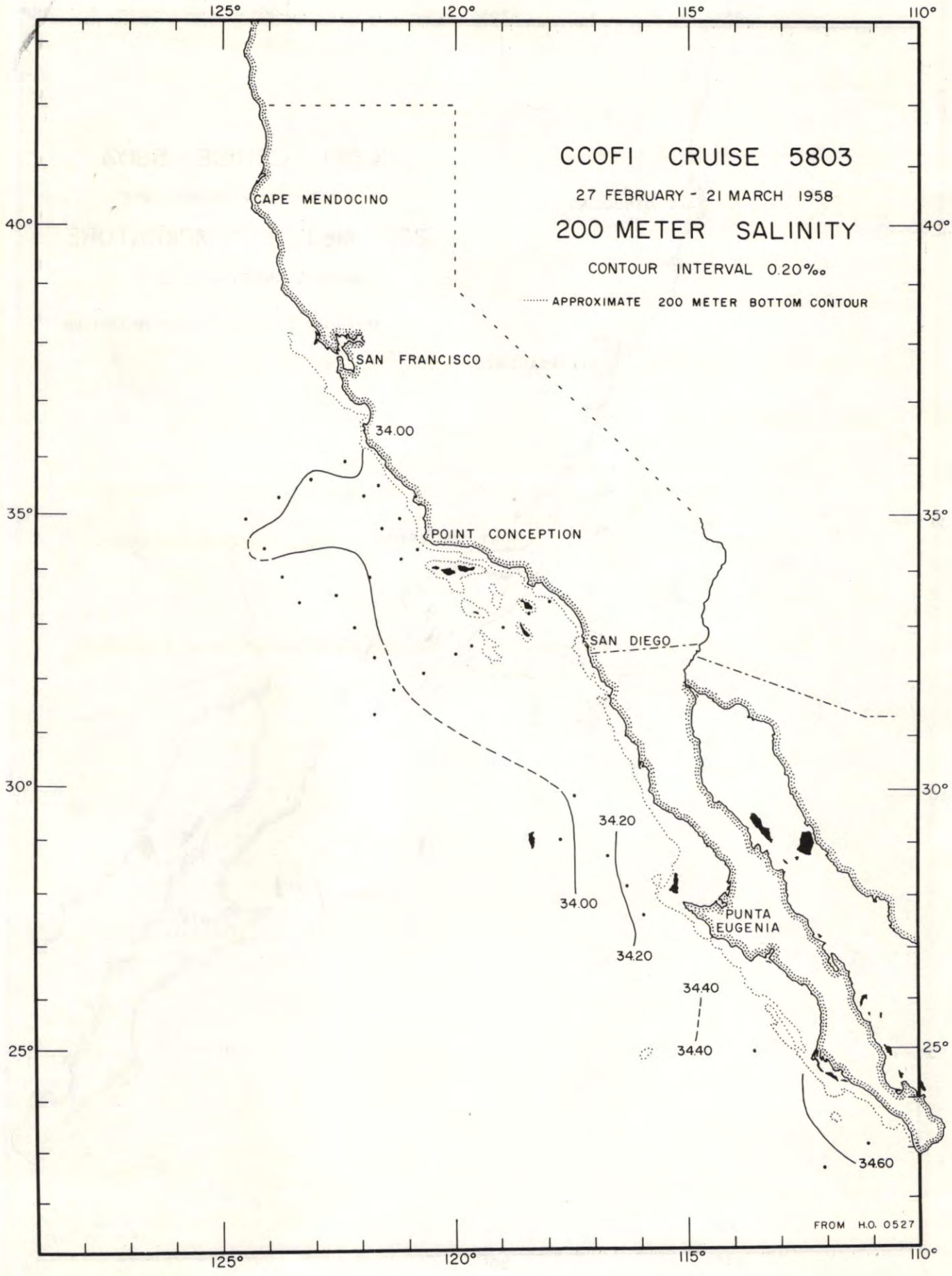

CCOFI CRUISE 5803
27 FEBRUARY - 21 MARCH 1958
200 METER SALINITY
CONTOUR INTERVAL 0.20‰
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
34.00
34.20
34.40
34.60
125°
120°
115°
110°
40°
35°
30°
25°
FROM H.O. 0527

FIGURE 7

PERSONNEL
Cruise 5803

SHIPS' CAPTAINS

Colbeth, Clifford W., R/V Stranger
Forster, Charles W., R/V Black Douglas

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

R/V Black Douglas

Gilkey, Robert W., Senior Marine Technician
Bower, Donald R., Fishery Aid, U. S. Bureau of Commercial Fisheries
Kawala, Robert S., Marine Technician
Tubbs, Paul E., Fishery Aid, U. S. Bureau of Commercial Fisheries

R/V Stranger

Reid, Charles F., Fishery Aid, U. S. Bureau of Commercial Fisheries
Brennan, Robert E., Marine Technician

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_{-5} 10^3 cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_{-5} 10^3 cm/g	ΔD dyn. m

BLACK DOUGLAS; March 1, 1958; 2108 GCT; 36°08.5'N, 121°50'W; sounding, 300 fm; wind, 300°, force 2; weather, cloudy; sea, very rough; wire angle, 07°. 7052

0	13.75	33.33	6.00	299	0	13.75	33.33	6.00	24.98	299	0.00
9	13.66	33.31	6.07	299	10	13.65	33.31	6.05	24.98	299	0.03
29	12.49	33.33	5.61	276	20	13.58	33.31	6.04	25.00	296	0.06
39	11.75	33.25	5.59	268	30	12.40	33.32	5.60	25.24	274	0.09
48	12.14	33.55	4.56	253	50	12.05	33.59	4.33	25.51	248	0.14
58	11.83	33.60	4.17	244	75	11.17	33.62	3.96	25.69	231	0.20
67	11.65	33.60	4.16	241	100	9.97	33.79	3.12	26.04	198	0.25
80	10.74	33.68	3.53	219	150	9.13	34.02	2.24	26.35	168	0.35
94	10.26	33.75	3.17	206	200	8.55	34.08	2.01	26.49	155	0.43
107	9.61	33.82	3.12	191	250	7.93	34.10	1.94	26.61	144	0.50
129	9.33	33.97	2.50	175	300	7.42	34.15	1.46	26.71	134	0.58
156	9.11	34.04	2.23	166	400	(6.48)	(34.24)	(0.86)	(26.91)	(115)	(0.70)
186	8.75	34.08	2.05	158							
231	8.15	34.08	1.99	149							
303	7.40	34.16	1.42	133							
395	6.52	34.23	0.90	116							

BLACK DOUGLAS; March 2, 1958; 0239 GCT; 35°53'N, 122°23'W; sounding, 1600 fm; wind, 360°, force 3; weather, cloudy; sea, very rough; wire angle, 10°. 7060

0	13.80	33.01	5.59	324	0	13.80	33.01	5.59	24.72	324	0.00
9	13.80	32.97	5.59	327	10	13.80	32.97	5.59	24.68	327	0.03
28	13.72	32.99	5.55	324	20	13.77	32.98	5.58	24.70	325	0.06
53	13.68	32.99	5.60	323	30	13.70	32.99	5.56	24.73	323	0.10
62	13.44	33.03	5.61	316	50	13.68	32.99	5.59	24.73	323	0.16
72	11.71	33.17	5.50	274	75	10.83	33.17	5.36	25.40	259	0.24
80	10.58	33.17	5.33	254	100	9.75	33.25	5.07	25.66	234	0.30
94	10.10	33.22	5.21	243	150	8.66	33.58	3.82	26.08	194	0.41
107	9.30	33.26	4.92	227	200	8.17	33.92	2.31	26.43	161	0.50
124	8.96	33.41	4.53	211	250	7.86	34.05	1.78	26.58	147	0.58
141	8.78	33.55	3.94	198	300	7.22	34.09	1.52	26.69	136	0.65
163	8.46	33.71	3.77	181	400	6.65	34.17	0.80	26.84	122	0.78
185	8.23	33.84	3.25	169	500	5.83	34.20	0.56	26.96	111	0.90
228	8.04	34.04	1.98	151							
299	7.25	34.08	1.54	137							
389	6.70	34.17	0.85	123							
510	5.77	34.20	0.55	109							

BLACK DOUGLAS; March 2, 1958; 0915 GCT; 35°33'N, 123°06'W; sounding, 2000 fm; wind, 360°, force 2; weather, clear; sea, very rough; wire angle, 04°. 7070

0	13.82	33.35	5.69	299	0	13.82	33.35	5.69	24.97	299	0.00
10	13.82	33.40	5.60	296	10	13.82	33.40	5.60	25.01	296	0.03
29	13.84	33.34	5.60	301	20	13.83	33.38	5.60	25.00	297	0.06
53	13.86	33.39	5.57	297	30	13.84	33.34	5.58	24.96	300	0.09
63	13.26	33.53	5.12	275	50	13.88	33.38	5.57	24.98	298	0.15
72	11.62	33.58	3.76	242	75	11.49	33.59	3.70	25.61	239	0.22
82	11.22	33.60	3.59	233	100	10.53	33.66	3.02	25.84	217	0.27
96	10.68	33.64	3.05	221	150	9.73	33.88	2.54	26.16	187	0.38
109	10.32	33.68	3.02	212	200	9.02	34.03	2.02	26.38	166	0.47
127	10.09	33.73	2.95	205	250	8.36	34.10	1.78	26.54	151	0.55
145	9.84	33.83	2.73	194	300	7.87	34.15	1.34	26.65	140	0.62
168	9.40	33.96	2.17	177	400	6.98	34.26	0.83	26.86	120	0.76
191	9.12	34.02	2.06	168	500	5.94	34.24	0.50	26.98	109	0.88
236	8.54	34.08	1.88	155							
309	7.81	34.16	1.26	139							
402	6.95	34.26	0.83	120							
525	5.64	34.22	0.42	106							

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m

70.80 BLACK DOUGLAS; March 2, 1958; 1532 GCT; 35°13'N, 123°48'W; sounding, 2200 fm; wind, 360°, force 4; weather, partly cloudy; sea, moderate; wire angle, 07°.

0	13.99	33.27	5.82	308	0	13.99	33.27	5.82	24.88	308	0.00
10	14.00	33.24	5.84	311	10	14.00	33.24	5.84	24.85	311	0.03
29	14.14	33.39	5.94	303	20	14.10	33.34	5.91	24.90	306	0.06
53	14.02	33.42	5.81	299	30	14.14	33.39	5.93	24.94	303	0.09
63	13.06	33.48	5.34	275	50	14.04	33.41	5.81	24.97	300	0.15
72	11.89	33.42	4.90	258	75	11.65	33.42	4.79	25.45	254	0.22
81	11.28	33.43	4.60	247	100	10.00	33.46	4.40	25.78	223	0.28
94	10.34	33.44	4.50	230	150	8.93	33.81	2.97	26.22	181	0.38
108	9.69	33.51	4.06	215	200	8.23	33.94	2.47	26.44	160	0.47
125	9.34	33.65	3.44	199	250	7.68	34.01	1.95	26.57	148	0.55
144	9.02	33.77	3.08	186	300	7.13	34.06	1.75	26.68	137	0.62
166	8.60	33.89	2.77	170	400	6.50	34.14	0.96	26.84	122	0.76
188	8.37	33.91	2.57	165	500	6.00	34.18	0.60	26.94	113	0.88
233	7.87	33.99	2.10	152							
305	7.05	34.07	1.72	135							
398	6.53	34.14	0.98	123							
521	5.90	34.19	0.54	112							

70.90 BLACK DOUGLAS; March 2, 1958; 2122, 2147 GCT; 34°53'N, 124°30'W; sounding, 2150 fm; wind, 040°, force 5; weather, partly cloudy; sea, high; wire angle, 25°, 20°.

0	14.00	33.12	5.97	320	0	14.00	33.12	5.97	24.76	320	0.00
8	14.03	33.11	5.87	321	10	14.03	33.12	5.87	24.75	321	0.03
26	14.00	33.15	5.95	318	20	14.01	33.14	5.93	24.77	319	0.06
53	13.82	33.22	5.88	309	30	13.99	33.16	5.94	24.80	316	0.10
61	13.45	33.24	5.78	300	50	13.84	33.21	5.88	24.86	310	0.16
69	12.04	33.30	5.65	270	75	11.60	33.30	5.64	25.37	262	0.23
82	11.22	33.30	5.61	255	100	9.88	33.33	4.74	25.69	231	0.29
94	10.22	33.31	4.93	238	150	8.80	33.69	3.73	26.15	188	0.40
105	9.72	33.35	4.67	227	200	8.11	33.92	3.46	26.44	160	0.48
121	9.48	33.56	3.92	208	250	7.43	34.05	1.90	26.63	142	0.56
137	9.02	33.68	3.54	192	300	7.25	34.13	1.28	26.72	133	0.63
161	8.62	33.71	3.82	184	400	6.42	34.14	0.93	26.84	122	0.77
181	8.37	33.86	3.77	169	500	6.02	34.17	0.73	26.92	115	0.89
241	7.54	34.02	2.19	145							
310	7.22	34.14	1.25	132							
411	6.30	34.14a)	0.89	120							
542	5.90	34.26	0.52	106							

73.55 BLACK DOUGLAS; March 1, 1958; 1300, 1340 GCT; 35°27.5'N, 121°37.5'W; sounding, 530 fm; wind, calm; weather, clear; sea, rough; wire angle, 08°, 11°.

0	13.86	33.31		303	0	13.86	33.31		24.94	303	0.00
9	13.90	33.31		304	10	13.91	33.31		24.93	304	0.03
29	13.93	33.33		303	20	13.93	33.32		24.93	304	0.06
58	13.24	33.55b)		274	30	13.93	33.34		24.94	303	0.09
67	11.58	33.51		246	50	13.82	33.44		25.04	293	0.15
75	11.04	33.53		235	75	11.04	33.53		25.65	235	0.22
88	10.63	33.59		224	100	10.30	33.74		25.94	207	0.27
101	10.26	33.75		206	150	9.40	33.95		26.25	178	0.37
114	9.88	33.80		196	200	8.55	34.04		26.46	158	0.46
131	9.64	33.86		188	250	8.14	34.10		26.58	147	0.53
148	9.43	33.93		180	300	7.78	34.15		26.66	139	0.61
174	9.06	34.02		168	400	6.88	34.22		26.84	122	0.74
					500	6.08	34.27		26.99	108	0.86
200	8.55	34.04		158							
248	8.14	34.10		148							
324	7.57	34.17		134							
423	6.66	34.23		118							
553	5.86	34.29		104							

a) Possible evaporation; value falls on property curve.
b) Loose bottle cap; value falls on property curve.

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m
BLACK DOUGLAS; March 1, 1958; 0615 GCT; 35°18'N, 121°58.5'W; sounding, 1300 fm; wind, 360°, force 7; weather, partly cloudy; sea, high; wire angle, 32°.											73.60
0	14.10	33.46		297	0	14.10	33.46		25.00	297	0.00
8	14.07	33.40		300	10	14.07	33.40		24.96	300	0.03
29	14.10	33.41		300	20	14.08	33.41		24.96	300	0.06
53	14.08	33.44		298	30	14.10	33.41		24.96	300	0.09
61	13.17	33.53		273	50	14.09	33.43		24.98	299	0.15
72	12.04	33.53		253	75	11.83	33.55		25.51	248	0.22
78	11.76	33.57		244	100	10.33	33.61		25.83	218	0.28
92	10.68	33.65		221	150	9.62	33.90		26.17	186	0.38
102	10.26	33.60		217	200	9.02	34.04		26.39	165	0.47
115	10.16	33.73		206	250	8.50	34.13		26.54	151	0.55
132	9.97	33.84		194	300	7.87	34.18		26.67	138	0.62
152	9.60	33.91		184	400	6.78	34.22		26.86	120	0.76
172	9.36	33.98		174	500	(6.01)	(34.26)		(26.99)	(108)	(0.88)
214	8.90	34.06		162							
278	8.16	34.17		143							
364	7.16	34.20		126							
486	6.14	34.25		110							
BLACK DOUGLAS; March 3, 1958; 0249 GCT; 34°19'N, 124°06'W; sounding, 2300 fm; wind, 020°, force 4; weather, clear; sea, high; wire angle, 05°.											73.90
0	14.22	33.22	5.41a)	317	0	14.22	33.22	5.41	24.79	317	0.00
10	14.21	33.21	5.31	317	10	14.21	33.21	5.31	24.79	317	0.03
34	14.14	33.22	5.27	315	20	14.18	33.22	5.30	24.80	316	0.06
44	14.13	33.24	5.49	314	30	14.16	33.22	5.28	24.80	316	0.10
58	13.10	33.31	3.93	288	50	13.99	33.26	5.40	24.86	310	0.16
68	11.56	33.32	5.43	260	75	10.98	33.31	5.01	25.48	251	0.23
77	10.82	33.31	4.87	248	100	9.87	33.58	3.18	25.88	213	0.29
94	10.14	33.57	3.04	217	150	8.94	33.80	3.26	26.21	182	0.39
113	9.40	33.58	3.93	205	200	8.45	34.02	1.44	26.46	158	0.47
126	9.29	33.69	3.76	195	250	7.82	34.09	1.29	26.61	144	0.55
148	8.98	33.78	3.31	183	300	7.30	34.14	1.83	26.72	133	0.62
184	8.64	33.98	2.18	164	400	6.42	34.22	1.23	26.90	116	0.75
220	8.19	34.05	0.77	152	500	5.85	34.27	0.80	27.02	105	0.87
274	7.56	34.12	1.83	138	600	5.28	34.33	0.53	27.13	94	0.97
356	6.74	34.19	1.47	122							
462	6.03	34.25	0.92	109							
602	5.24	34.33	0.51	94							
BLACK DOUGLAS; February 28, 1958; 1837 GCT; 34°54.5'N, 121°13'W; sounding, 300 fm; wind, 360°, force 2; weather, clear; sea, very rough; wire angle, 15°.											77.55
0	14.34	33.42	5.64	304	0	14.34	33.42	5.64	24.92	304	0.00
9	14.34	33.41	5.79	305	10	14.34	33.41	5.80	24.91	305	0.03
28	14.30	33.39	5.88	306	20	14.33	33.41	5.84	24.91	305	0.06
38	14.31	33.42	7.50u	304	30	14.30	33.40	5.86	24.91	305	0.09
47	14.20	33.40	5.81	303	50	14.00	33.41	5.72	24.98	298	0.15
56	13.25	33.42	5.42	283	75	12.26	33.42	5.17	25.33	266	0.22
65	12.42	33.41	5.24	269	100	10.52	33.42	4.72	25.66	234	0.29
78	12.20	33.42	5.16	264	150	9.54	33.78	3.27	26.10	192	0.39
91	11.46	33.41	4.83	252	200	9.01	34.06	2.04	26.40	164	0.48
104	10.32	33.43	4.71	230	250	8.65	34.14	1.49	26.53	151	0.56
124	9.94	33.60	3.98	212	300	8.27	34.18	1.32	26.62	143	0.64
149	9.56	33.75	3.28	195	400	7.23	34.23	0.97	26.80	126	0.78
178	9.32	33.98	2.68	174	500	(6.26)	(34.32)	(0.91)	(27.01)	(106)	(0.90)
221	8.86	34.09	1.74	159							
289	8.37	34.18	1.36	145							
377	7.50	34.21	1.03	131							
495	6.33	34.31	0.91	108							

a) Unusual oxygen distribution on this station. Titration was checked carefully aboard ship. Compare with Station 77.90.

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m
77.60	BLACK DOUGLAS; February 28, 1958; 2230 GCT; 34°44'N, 121°34'W; sounding, 550 fm; wind, 320°, force 7; weather, partly cloudy; sea, high; wire angle, 17°.										
0	14.29	33.36	5.76	308	0	14.29	33.36	5.76	24.88	308	0.00
9	14.28	33.37	5.86	307	10	14.28	33.37	5.86	24.89	307	0.03
33	14.24	33.33	5.87	309	20	14.25	33.35	5.86	24.87	309	0.06
61	13.98	33.43	5.80	296	30	14.24	33.35	5.86	24.87	309	0.09
70	13.37	33.44	5.44	284	50	14.20	33.37	5.85	24.90	306	0.15
84	12.02	33.42	5.02	261	75	12.96	33.43	5.26	25.22	276	0.23
92	10.88	33.40	4.64	242	100	10.63	33.46	4.37	25.67	233	0.29
110	10.44	33.55	4.13	224	150	9.43	33.80	3.11	26.12	190	0.40
123	10.00	33.64	3.68	210	200	9.04	34.03	2.24	26.38	166	0.49
141	9.62	33.77	3.27	195	250	8.48	34.13	1.62	26.54	150	0.57
163	9.15	33.84	3.02	182	300	8.00	34.19	1.27	26.66	139	0.64
190	9.15	34.00	2.47	170	400	6.83	34.19	0.99	26.82	124	0.78
216	8.84	34.06	2.06	161	500	6.25	34.22	0.71	26.93	113	0.90
269	8.30	34.18	1.40	144	600	(5.80)	(34.30)		(27.05)	(102)	(1.02)
349	7.33	34.18	1.14	130							
453	6.50	34.20	0.85	118							
590	5.82	34.29	0.43	103							
77.90	BLACK DOUGLAS; March 3, 1958; 0755, 0820 GCT; 33°49'N, 123°42'W; sounding, 2440 fm; wind, 360°, force 4; weather, clear; sea, high; wire angle, 08°, 08°.										
0	14.17	33.13	5.58a)	322	0	14.17	33.13	5.58	24.74	322	0.00
10	14.16	33.14	5.56	321	10	14.16	33.14	5.56	24.75	321	0.03
29	14.16	33.21	5.56	316	20	14.16	33.18	5.56	24.77	318	0.06
56	13.51	33.44	5.56	286	30	14.16	33.22	5.56	24.80	316	0.10
64	12.77	33.42	5.12	274	50	13.97	33.35	5.56	24.95	302	0.16
74	11.39	33.37	4.66	253	75	11.25	33.37	4.63	25.47	252	0.23
87	9.84	33.37	4.45	228	100	9.88	33.55	3.64	25.86	215	0.29
100	9.88	33.55	3.64	215	150	9.12	33.83	2.45	26.20	182	0.39
113	9.22	33.55	3.63	205	200	8.00	33.94	3.05	26.47	157	0.47
					250	7.73	34.10	1.26	26.63	142	0.55
131	9.07	33.65	3.24	195	300	7.22	34.12	1.07	26.72	133	0.62
148	9.14	33.81	2.70	184	400	6.30	34.17	0.69	26.88	118	0.75
175	8.81	33.96	2.24	168	500	5.70	34.21	0.57	26.99	108	0.87
196	8.04	33.93	3.07	159							
245	7.76	34.09b)	1.28	143							
322	6.96	34.13	0.96	129							
424	6.17	34.18	0.65	115							
556	5.34	34.25	0.56	101							
80.51	BLACK DOUGLAS; March 4, 1958; 1637 GCT; 34°26.5'N, 120°32.5'W; sounding, 42 fm; wind, 030°, force 6; weather, clear; sea, rough; wire angle, 02°.										
0	14.15	33.57	5.49	290	0	14.15	33.57	5.49	25.07	290	0.00
10	14.13	33.57	5.48	289	10	14.13	33.57	5.48	25.08	289	0.03
29	14.03	33.57	5.33	287	20	14.12	33.57	5.45	25.08	289	0.06
49	13.42	33.58	4.87	275	30	14.02	33.57	5.30	25.10	287	0.09
68	11.70	33.62	3.99	240	50	13.32	33.58	4.83	25.25	273	0.14

a) Unusual oxygen distribution on this station. Titration was checked carefully aboard ship. Compare with Station 73.90.

b) Loose bottle cap; value falls on property curve.

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m

BLACK DOUGLAS; March 4, 1958; 1308 GCT; 34°19'N, 120°48'W; sounding, 414 fm; wind, 020°, force 5; weather, clear; sea, rough; wire angle, 23°. 80.55

0	14.26	33.50	5.91	297	0	14.26	33.50	5.91	25.00	297	0.00
8	14.26	33.53	5.94	295	10	14.26	33.52	5.94	25.02	295	0.03
27	14.26	33.48	5.97	298	20	14.26	33.50	5.95	25.00	297	0.06
54	13.46	33.54	5.12	278	30	14.26	33.48	5.95	24.98	298	0.09
63	12.50	33.54	4.62	261	50	13.95	33.51	5.59	25.06	290	0.15
72	11.74	33.53	4.43	247	75	11.41	33.54	4.30	25.58	241	0.22
84	10.82	33.58	3.93	228	100	10.62	33.72	3.34	25.86	215	0.27
97	10.70	33.71	3.38	216	150	9.59	33.87	2.77	26.16	186	0.37
109	10.39	33.73	3.24	210	200	9.02	34.08	1.92	26.42	162	0.46
126	10.14	33.78	2.99	202	250	8.23	34.14	1.59	26.58	146	0.54
142	9.76	33.85	2.83	190	300	7.42	34.11	1.47	26.68	137	0.62
167	9.24	33.95	2.50	175	400	6.88	34.22	0.77	26.84	122	0.75
188	9.18	34.04	2.17	168	500	6.26	34.28	0.45	26.97	109	0.87
233	8.54	34.14	1.66	150							
307	7.38	34.11	1.44	136							
401	6.88	34.22	0.77	122							
526	6.04	34.29	0.43	106							

BLACK DOUGLAS; March 4, 1958; 0902 GCT; 34°09'N, 121°09'W; sounding, 1200 fm; wind, 060°, force 3; weather, partly cloudy; sea, moderate; wire angle, 10°. 80.60

0	14.36	33.39	5.63	307	0	14.36	33.39	5.63	24.89	307	0.00
9	14.36	33.40	5.64	306	10	14.36	33.40	5.64	24.90	306	0.03
28	14.34	33.38	5.59	307	20	14.36	33.39	5.62	24.89	307	0.06
58	13.82	33.45	5.59	292	30	14.34	33.38	5.59	24.89	307	0.09
67	13.00	33.41	5.15	280	50	14.28	33.39	5.59	24.90	306	0.15
76	11.88	33.41	4.85	259	75	12.03	33.41	4.88	25.37	262	0.22
89	10.78	33.42	4.69	239	100	10.30	33.41	4.52	25.69	231	0.29
104	10.08	33.41	4.41	229	150	9.03	33.70	3.36	26.11	191	0.39
117	9.53	33.49	4.20	213	200	8.74	34.01	2.35	26.41	163	0.48
134	9.24	33.63	3.72	199	250	8.05	34.09	1.92	26.58	147	0.56
152	9.02	33.71	3.36	190	300	7.40	34.14	1.53	26.71	134	0.63
179	8.93	33.93	2.56	172	400	6.61	34.26	0.74	26.91	115	0.76
201	8.74	34.01	2.35	163	500	6.02	34.31	0.59	27.03	104	0.88
249	8.07	34.09	1.94	148							
326	7.09	34.16	1.28	129							
426	6.48	34.28	0.68	112							
556	5.64	34.33	0.58	98							

BLACK DOUGLAS; March 4, 1958; 0315 GCT; 33°49'N, 121°51'W; sounding, 2000 fm; wind, 160°, force 5; weather, rain; sea, very rough; wire angle, 07°. 80.70

0	14.28	33.21	5.55	319	0	14.28	33.21	5.55	24.77	319	0.00
10	14.28	33.22	5.60	318	10	14.28	33.22	5.60	24.78	318	0.03
29	14.28	33.24	5.58	317	20	14.28	33.22	5.59	24.78	318	0.06
58	14.20	33.26	5.58	313	30	14.28	33.24	5.58	24.80	316	0.10
68	13.76	33.34	5.58	299	50	14.25	33.25	5.58	24.81	315	0.16
78	12.86	33.36	5.56	280	75	13.15	33.36	5.57	25.10	287	0.23
92	11.50	33.33	5.14	258	100	10.76	33.34	4.93	25.54	245	0.30
106	10.39	33.35	4.86	238	150	8.94	33.70	3.88	26.14	188	0.41
120	9.54	33.42	4.44	219	200	8.62	34.00	2.26	26.42	162	0.50
138	9.02	33.58	4.11	200	250	7.82	34.09	1.95	26.61	144	0.58
156	8.89	33.78a)	3.15	182	300	7.32	34.15	1.51	26.73	132	0.65
183	8.79	33.93	2.50	170	400	6.60	34.23	0.80	26.90	117	0.78
206	8.48	34.02	2.24	159	500	5.99	34.28	0.48	27.01	106	0.89
256	7.76	34.10	1.91	142							
333	7.06	34.19	1.23	126							
434	6.33	34.25	0.61	112							
566	5.64	34.31	0.39	100							

a) Possible evaporation; value falls on property curve.

SIO

CCOFI 5803

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m

80.80 BLACK DOUGLAS; March 3, 1958; 2124 GCT; 33°29'N, 122°32'W; sounding, 2400 fm; wind, 270°, force 5; weather, rain; sea, very rough; wire angle, 18°.

0	15.60	33.46	5.62	328	0	15.60	33.46	5.62	24.67	328	0.00
8	15.58	33.39	5.62	332	10	15.57	33.40	5.66	24.64	331	0.03
28	15.54	33.44	5.74	328	20	15.56	33.40	5.69	24.64	331	0.07
55	15.52	33.42	5.63	329	30	15.54	33.43	5.73	24.67	328	0.10
64	15.54	33.42	5.75	329	50	15.50	33.42	5.67	24.66	329	0.16
72	15.48	33.44	5.68	327	75	15.47	33.44	5.68	24.69	326	0.25
85	14.16	33.46	5.76	298	100	12.38	33.39	5.37	25.28	270	0.32
98	12.66	33.40	5.46	274	150	9.31	33.62	4.02	26.02	200	0.44
110	11.30	33.35	5.18	253	200	8.68	33.89	2.95	26.33	171	0.53
128	10.00	33.43	4.82	225	250	7.96	34.03	2.35	26.54	150	0.62
143	9.42	33.55	4.22	208	300	7.39	34.09	1.80	26.67	138	0.69
169	9.15	33.68	3.66	194	400	6.50	34.13	1.06	26.82	124	0.83
190	8.81	33.84	3.15	177	500	5.80	34.21	0.76	26.98	109	0.95
237	8.14	34.00	2.49	155							
310	7.32	34.10	1.72	136							
405	6.45	34.13	1.00	123							
531	5.69	34.23	0.74	106							

123

80.90 BLACK DOUGLAS; March 3, 1958; 1355 GCT; 33°21.5'N, ~~133°~~ 21'W; sounding, 2400 fm; wind, 320°, force 4; weather, partly cloudy; sea, rough; wire angle, 10°.

0	14.55	33.06	5.91	335	0	14.55	33.06	5.91	24.60	335	0.00
10	14.54	33.06	5.88	335	10	14.54	33.06	5.88	24.60	335	0.03
29	14.56	33.05	6.05	336	20	14.55	33.06	6.00	24.60	335	0.07
57	14.52	33.12	5.94	330	30	14.56	33.06	6.04	24.60	335	0.10
66	13.52	33.20	5.91	304	50	14.54	33.10	5.99	24.63	332	0.17
76	12.83	33.30	5.79	284	75	12.90	33.30	5.80	25.12	286	0.24
89	11.95	33.32	5.67	266	100	10.62	33.28	5.35	25.52	247	0.31
103	10.26	33.28	5.25	241	150	8.98	33.66	3.95	26.10	192	0.42
116	9.48	33.35	4.85	223	200	8.28	33.95	2.63	26.43	161	0.51
134	9.26	33.51	4.35	208	250	7.59	34.04	2.14	26.60	145	0.59
153	8.94	33.68	3.90	190	300	7.13	34.09	1.71	26.70	135	0.66
180	8.57	33.84	3.01	173	400	6.29	34.17	0.92	26.89	117	0.79
202	8.25	33.96	2.61	160	500	5.57	34.25	0.54	27.04	103	0.91
252	7.58	34.04	2.13	144							
330	6.88	34.12	1.41	129							
432	6.00	34.20	0.70	112							
564	5.18	34.29	0.42	96							

83.80 BLACK DOUGLAS; March 6, 1958; 0247 GCT; 32°54.5'N, 122°07.5'W; sounding, 2200 fm; wind, 320°, force 5; weather, overcast; sea, very rough; wire angle, 15°.

0	14.49	33.37	5.81	311	0	14.49	33.37	5.81	24.85	311	0.00
9	14.49	33.37	5.91	311	10	14.48	33.37	5.90	24.85	311	0.03
28	14.46	33.37	5.76	311	20	14.47	33.37	5.83	24.85	311	0.06
56	14.37	33.40	5.76	306	30	14.45	33.38	5.76	24.86	310	0.09
64	14.22	33.40	5.84	304	50	14.38	33.40	5.76	24.89	307	0.16
73	13.62	33.40	5.58	292	75	13.59	33.40	5.57	25.06	291	0.23
86	13.32	33.44	5.55	283	100	11.92	33.40	5.02	25.39	260	0.30
99	12.10	33.40	5.15	264	150	9.03	33.68	3.53	26.10	192	0.41
112	10.59	33.44	4.46	234	200	8.22	33.95	2.58	26.44	160	0.50
128	9.76	33.53	4.11	214	250	7.51	34.01	2.02	26.60	145	0.58
145	9.20	33.64	3.68	198	300	7.00	34.09	1.58	26.73	132	0.65
170	8.66	33.78	3.28	179	400	6.32	34.14	0.86	26.85	121	0.78
192	8.36	33.93	2.72	163	500	5.88	34.18	0.50	26.94	112	0.90
239	7.63	34.00	2.12	148							
312	6.91	34.11	1.50	130							
408	6.24	34.14	0.77	120							
535	5.64	34.25	0.42	104							

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_{-5} 10^3 cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_{-5} 10^3 cm/g	ΔD dyn. m
BLACK DOUGLAS; March 6, 1958; 0912 GCT; 32°19.5'N, 121°43'W; sounding, 2100 fm; wind, 290°, force 7; weather, rain; sea, high; wire angle, 28°.											87.80
0	14.92	33.40		318	0	14.92	33.40		24.78	318	0.00
8	14.93	33.40		317	10	14.95	33.41		24.79	317	0.03
26	14.96	33.44		315	20	14.96	33.43		24.80	316	0.06
52	14.89	33.40		317	30	14.96	33.43		24.80	316	0.10
60	14.10	33.44		298	50	14.90	33.41		24.79	317	0.16
68	13.92	33.52		289	75	13.77	33.52		25.12	286	0.23
80	13.64	33.51		284	100	12.04	33.44		25.38	260	0.30
92	12.93	33.45		275	150	9.17	33.65		26.06	196	0.42
103	11.71	33.44		253	200	8.61	33.89		26.34	170	0.51
120	10.00	33.50		220	250	7.88	34.03		26.55	149	0.59
135	9.49	33.54		210	300	7.41	34.08		26.66	139	0.66
157	9.08	33.67		194	400	6.56	34.24		26.91	116	0.80
178	8.87	33.79		182	500	5.91	34.33		27.05	102	0.91
221	8.22	33.98		158							
291	7.49	34.07		141							
384	6.70	34.22		119							
507	5.89	34.33		101							
BLACK DOUGLAS; March 7, 1958; 2145 GCT; 33°24.5'N, 117°55'W; sounding, 341 fm; wind, 140°, force 4; weather, partly cloudy; sea, rough; wire angle, 12°.											90.30
0	15.44	33.58	5.80	316	0	15.44	33.58	5.80	24.80	316	0.00
9	15.41	33.54	5.85	318	10	15.41	33.55	5.85	24.79	317	0.03
28	15.30	33.58	5.83	312	20	15.37	33.57	5.84	24.82	314	0.06
56	14.68	33.55	5.37	302	30	15.30	33.58	5.83	24.84	312	0.09
64	13.26	33.55	4.89	274	50	15.24	33.58	5.79	24.85	311	0.16
74	12.12	33.55	4.40	252	75	12.03	33.55	4.37	25.48	252	0.23
87	11.22	33.62	4.07	232	100	10.59	33.73	3.55	25.88	213	0.29
100	10.59	33.73	3.55	213	150	9.66	33.96	2.58	26.22	181	0.39
114	10.26	33.82	3.22	201	200	9.05	34.17	1.99	26.48	156	0.47
131	9.96	33.87	2.86	192	250	8.72	34.28	1.44	26.62	143	0.55
149	9.68	33.96	2.59	181	300	8.34	34.30	1.20	26.70	135	0.62
176	9.36	34.06	2.38	169	400	7.33	34.29	0.79	26.84	122	0.75
198	9.07	34.16	2.01	157	500	6.52	34.31	0.53	26.96	110	0.87
247	8.76	34.27	1.48	144							
324	8.12	34.30	1.09	132							
424	7.04	34.29	0.70	119							
555	6.16	34.35	0.43	103							
BLACK DOUGLAS; March 7, 1958; 1703 GCT; 33°11'N, 118°23.5'W; sounding, 645 fm; wind, 330°, force 3; weather, partly cloudy; sea, very rough; wire angle, 08°.											90.37
0	15.20	33.57	5.29	311	0	15.20	33.57	5.29	24.85	311	0.00
10	15.18	33.55	5.29	312	10	15.18	33.55	5.29	24.84	312	0.03
29	15.19	33.59	5.29	309	20	15.18	33.57	5.29	24.85	311	0.06
53	14.60	33.56	5.26	300	30	15.19	33.59	5.29	24.87	309	0.09
63	13.16	33.48	5.03	277	50	14.86	33.57	5.27	24.93	304	0.15
72	11.80	33.48	4.71	252	75	11.58	33.50	4.52	25.53	247	0.22
81	11.32	33.63	3.91	232	100	10.85	33.67	3.48	25.79	222	0.28
95	10.98	33.66	3.58	224	150	9.79	34.00	2.37	26.23	180	0.39
107	10.74	33.68	3.42	219	200	9.05	34.10	2.13	26.43	161	0.47
125	10.33	33.75	3.21	207	250	8.55	34.19	1.61	26.58	146	0.55
143	9.88	33.93	2.59	186	300	8.12	34.23	1.41	26.67	138	0.62
170	9.60	34.05	2.25	173	400	7.27	34.31	0.61	26.86	120	0.76
187	9.24	34.07	2.34	167	500	6.35	34.33	0.61	27.00	107	0.88
232	8.74	34.17	1.76	151							
304	8.08	34.23	1.40	137							
394	7.32	34.31	0.61	120							
515	6.20	34.33	0.61	105							

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OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m

90.45 BLACK DOUGLAS; March 12, 1958; 1915 GCT; 32°54.5'N, 118°56'W; sounding, 900 fm; wind, 240°, force 3; weather, partly cloudy; sea, rough; wire angle, 08°.

0	15.17	33.57	5.78	310	0	15.17	33.57	5.78	24.86	310	0.00
9	15.12	33.57	5.76	310	10	15.10	33.57	5.76	24.86	310	0.03
28	15.08	33.57	5.80	310	20	15.09	33.57	5.78	24.86	310	0.06
38	15.03	33.57	5.80	308	30	15.08	33.57	5.80	24.88	308	0.09
48	12.97	33.45	5.36	275	50	12.90	33.45	5.32	25.24	274	0.15
58	12.46	33.44	4.79	267	75	11.45	33.50	4.63	25.54	246	0.22
67	12.16	33.46	4.98	260	100	10.59	33.60	3.87	25.78	222	0.28
80	11.11	33.51	4.29	238	150	9.62	33.94	2.44	26.21	182	0.38
94	10.62	33.58	3.96	225	200	9.04	34.11	1.87	26.44	160	0.46
108	10.46	33.72	3.38	212	250	8.57	34.18	1.48	26.57	147	0.54
129	9.92	33.87	2.72	192	300	8.09	34.23	1.17	26.67	138	0.62
156	9.57	33.96	2.36	179	400	7.29	34.26	0.69	26.82	124	0.75
187	9.20	34.07	2.01	166	500	6.43	34.30	0.46	26.96	110	0.87
232	8.76	34.16	1.63	152							
303	8.06	34.23	1.17	137							
393	7.39	34.25	0.74	126							
513	6.36	34.31	0.44	108							

90.55 BLACK DOUGLAS; March 12, 1958; 1308 GCT; 32°35'N, 119°37'W; sounding, 550 fm; wind, 320°, force 2; weather, rain; sea, moderate; wire angle, missing.

0	14.12	33.50	5.67	294	0	14.12	33.50	5.67	25.03	294	0.00
9	14.10	33.51	5.83	293	10	14.10	33.51	5.82	25.04	293	0.03
28	14.11	33.53	5.81	293	20	14.10	33.51	5.81	25.04	293	0.06
55	14.10	33.51	5.83	293	30	14.10	33.52	5.82	25.04	293	0.09
63	14.11	33.54	5.66	291	50	14.10	33.51	5.83	25.04	293	0.15
72	14.11	33.52	5.77	293	75	14.10	33.52	5.60	25.04	293	0.22
84	12.93	33.44	5.04	276	100	10.76	33.49	4.43	25.66	234	0.29
96	11.22	33.47	4.63	243	150	9.80	33.82	2.86	26.09	193	0.40
108	10.32	33.55	4.10	222	200	8.86	34.03	2.23	26.40	164	0.48
125	10.20	33.71	3.55	208	250	8.48	34.16	1.69	26.57	148	0.56
141	9.98	33.79	3.02	198	300	7.99	34.21	1.32	26.68	138	0.64
166	9.50	33.86	2.71	186	400	7.06	34.27	0.73	26.86	120	0.77
187	9.08	33.96	2.46	172	500	6.35	34.32	0.69	26.99	108	0.89
232	8.62	34.12	1.87	153							
305	7.97	34.22	1.30	136							
400	7.06	34.27	0.73	120							
528	6.12	34.33	0.69	104							

90.60 BLACK DOUGLAS; March 12, 1958; 0914, missing GCT; 32°26.5'N, 119°58'W; sounding, 800 fm; wind, 300°, force 5; weather, rain; sea, very rough; wire angle, 19°, missing.

0	14.62	33.51	5.54	304	0	14.62	33.51	5.54	24.92	304	0.00
7	14.63	33.51	5.66	304	10	14.62	33.52	5.64	24.93	303	0.03
24	14.60	33.52	5.61	302	20	14.60	33.52	5.62	24.93	303	0.06
49	14.56	33.51	5.54	303	30	14.59	33.51	5.60	24.94	302	0.09
57	14.52	33.51	5.53	302	50	14.54	33.51	5.54	24.94	302	0.15
66	12.76	33.46	5.12	270	75	12.17	33.43	5.08	25.36	262	0.22
79	12.00	33.42	5.04	260	100	11.00	33.46	4.55	25.60	239	0.29
91	11.66	33.42	4.88	254	150	9.39	33.76	3.44	26.11	191	0.39
104	10.70	33.49	4.44	233	200	8.78	34.05	2.28	26.43	161	0.48
					250	8.41	34.10	1.95	26.53	152	0.56
121	10.05	33.58	4.01	216	300	8.00	34.18	1.42	26.66	140	0.64
139	9.58	33.70	3.67	199	400	7.13	34.25	0.92	26.83	123	0.78
165	9.18	33.82	3.09	184	500	6.42	34.29	0.80	26.96	110	0.90
187	8.91	34.01	2.48	166							
235	8.53	34.09	2.05	154							
310	7.94	34.20	1.32	137							
409	7.02	34.25	0.90	122							
538	6.16	34.32	0.77	105							

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3^{-5} 10 cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3^{-5} 10 cm/g	ΔD dyn. m
BLACK DOUGLAS; March 12, 1958; 0250 GCT; 32°04.5'N, 120°39'W; sounding, 2100 fm; wind, 310°, force 5; weather, rain; sea, high; wire angle, 09°.											90.70
0	15.39	33.59	5.36	314	0	15.39	33.59	5.36	24.82	314	0.00
10	15.38	33.58 a)	5.52	314	10	15.38	33.58	5.52	24.82	314	0.03
34	15.36	33.59	5.50	313	20	15.38	33.58	5.51	24.82	314	0.06
63	15.38	33.58	5.37	314	30	15.37	33.58	5.51	24.82	314	0.09
73	15.32	33.60	5.37	312	50	15.36	33.59	5.42	24.83	313	0.16
87	12.29	33.41	5.04	266	75	15.26	33.60	5.35	24.85	311	0.23
96	11.86	33.41	4.92	258	100	11.62	33.42	4.82	25.46	254	0.31
114	10.56	33.48	4.16	230	150	9.32	33.72	3.40	26.09	193	0.42
128	10.19	33.58	3.66	217	200	9.00	34.10	2.08	26.44	160	0.51
145	9.48	33.70	3.42	197	250	8.37	34.16	1.52	26.59	146	0.59
168	9.10	33.78	3.38	186	300	7.79	34.20	1.16	26.70	136	0.66
195	9.04	34.08	2.28	162	400	6.86	34.25	0.77	26.86	120	0.79
222	8.74	34.14	1.73	153	500	6.03	34.28	0.58	27.00	107	0.91
276	8.02	34.18	1.32	140	600	5.47	34.33	0.48	27.10	97	1.02
358	7.22	34.23	0.90	126							
463	6.27	34.27	0.61	110							
603	5.44	34.33	0.48	96							
BLACK DOUGLAS; March 11, 1958; 1950 GCT; 31°45'N, 121°19'W; sounding, 2000 fm; wind, 320°, force 5; weather, rain; sea, high; wire angle, 10°.											90.80
0	15.05	33.58	5.63	308	0	15.05	33.58	5.63	24.88	308	0.00
10	15.02	33.55	5.59	309	10	15.02	33.55	5.59	24.87	309	0.03
34	15.04	33.56	5.26	309	20	15.02	33.55	5.46	24.87	309	0.06
62	15.00	33.55	5.22	309	30	15.03	33.55	5.35	24.87	309	0.09
71	14.99	33.55	-	309	50	15.01	33.55	5.23	24.87	309	0.15
84	13.02	33.37	5.32	283	75	14.40	33.48	5.22	24.96	301	0.23
94	12.00	33.37	5.27	264	100	11.58	33.38	5.18	25.43	256	0.30
112	10.75	33.40	4.93	240	150	9.12	33.69	3.43	26.09	193	0.42
125	9.96	33.48	4.26	221	200	8.32	33.98	2.52	26.44	160	0.50
142	9.32	33.62	3.66	201	250	7.51	34.08	1.90	26.65	140	0.58
164	8.84	33.80	3.01	180							
191	8.42	33.93	2.62	165							
217	8.01	34.04	2.14	150							
272	7.22	34.09	1.81	136							
385p	6.46	34.17	0.96	-							
BLACK DOUGLAS; March 11, 1958; 1110 GCT; 31°18'N, 121°42.5'W; sounding, 2000 fm; wind, 300°, force 6; weather, partly cloudy; sea, very rough; wire angle, 35°.											90.90
0	15.12	33.47	5.46	317	0	15.12	33.47	5.46	24.79	317	0.00
8	15.10	33.40	5.42	322	10	15.10	33.39	5.42	24.74	322	0.03
25	15.10	33.38	5.40	323	20	15.10	33.39	5.41	24.74	322	0.06
50	14.98	33.39	5.46	320	30	15.09	33.38	5.41	24.74	322	0.10
58	14.81	33.31	5.38	322	50	14.98	33.39	5.46	24.76	320	0.16
66	14.66	33.31	5.43	319	75	14.54	33.30	5.45	24.79	317	0.24
78	14.49	33.30	5.46	316	100	12.37	33.44	5.18	25.33	265	0.31
90	14.04	33.43	5.34	298	150	9.46	33.56	3.98	25.94	208	0.44
102	12.21	33.44	5.18	263	200	8.58	33.89	2.93	26.34	170	0.53
117	11.40	33.40	5.04	251	250	7.92	33.97	2.36	26.50	154	0.62
133	10.24	33.43	4.62	230	300	7.29	34.03	1.97	26.64	141	0.69
157	9.28	33.59	3.86	203	400	6.40	34.16	0.76	26.86	120	0.83
178	8.87	33.75	3.31	184	500	5.76	34.25	0.73	27.01	106	0.94
222	8.28	33.94	2.68	162							
292	7.37	34.02	2.02	143							
384	6.47	34.14	0.80	122							
504	5.74	34.25	0.73	105							

a) Loose bottle cap; value falls on property curve.

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OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m
107.50	BLACK DOUGLAS; March 20, 1958; 0315 GCT; 29°50.5'N, 117°23.5'W; sounding, 1350 fm; wind, 300°, force 3; weather, partly cloudy; sea, rough; wire angle, 17°.										
0	16.26	33.61	5.70	331	0	16.26	33.61	5.70	24.64	331	0.00
9	16.26	33.64	5.71	329	10	16.25	33.63	5.69	24.66	329	0.03
28	16.14	33.61	5.68	328	20	16.18	33.62	5.68	24.66	329	0.06
51	15.96	33.58	5.68	326	30	16.10	33.60	5.68	24.68	327	0.10
60	15.99	33.63	5.62	323	50	15.97	33.59	5.68	24.68	327	0.16
68	15.99	33.62	5.60	324	75	15.97	33.59	5.63	24.72	324	0.24
78	15.92	33.59	5.66	324	100	13.23	33.48	5.44	25.20	278	0.32
90	14.35	33.55	5.66	295	150	11.01	33.82	3.40	25.88	214	0.45
102	13.16	33.48	5.42	277	200	9.78	34.02	2.51	26.25	178	0.55
119	11.86	33.46	5.17	255	250	8.56	34.08	2.14	26.49	155	0.63
135	10.86	33.44	4.94	239	300	7.62	34.13	1.51	26.67	138	0.71
154	11.02	33.84	3.24	212	400	6.55	34.16	0.97	26.84	122	0.84
176	10.60	34.00	2.57	193	500	(6.20)	(34.38)		(27.05)	(101)	(0.96)
218	9.22	34.04	2.46	168							
284	7.90	34.13	1.68	142							
370	6.74	34.13	1.15	126							
484	6.28	34.32	0.44	106							
107.60	BLACK DOUGLAS; March 19, 1958; 2145 GCT; 29°31'N, 118°03'W; sounding, 1800 fm; wind, 340°, force 3; weather, cloudy; sea, moderate; wire angle, 00°.										
0	16.94	33.75	5.67	336	0	16.94	33.75	5.67	24.59	336	0.00
4	16.93	-	5.39	-	10	16.63	33.73	5.22	24.63	332	0.03
8	16.69	33.73	5.32	332	20	16.60	33.75	5.23	24.67	328	0.07
12	16.62	-	5.21	-	30	16.58	33.73	5.49	24.66	329	0.10
16	16.60	33.71	5.23	331	50	16.60	33.73	5.54	24.65	330	0.16
20	16.60	33.75	5.23	328	75	16.60	33.73	5.38	24.65	330	0.25
24	16.61	33.75	5.37	328	100	16.43	33.72	5.22	24.68	327	0.33
27	16.62	33.73	5.44	330	150	(11.00)	(33.71)	(3.60)	(25.79)	(222)	(0.47)
31	16.58	33.73	5.50	329							
35	16.60	33.73	5.53	330							
38	16.60	33.75	5.56	328							
42	16.60	33.73	5.59	330							
45	-	33.75	5.59	-							
49	-	33.75	5.56	-							
83	-	33.84	5.52	-							
126	12.70	33.51	5.05	266							
148	11.02	33.70	3.64	223							
110.50	STRANGER; March 19, 1958; 1106 GCT; 29°20.5'N, 117°05'W; sounding, 2000 fm; wind, 350°, force 4; weather, partly cloudy; sea, very rough; wire angle, 10°.										
0	16.44	33.71	5.64	327	0	16.44	33.71	5.64	24.68	327	0.00
10	16.46	33.70	5.61	328	10	16.46	33.70	5.61	24.67	328	0.03
30	16.42	33.75	5.61	324	20	16.43	33.73	5.61	24.69	326	0.06
59	16.21	33.68	5.65	325	30	16.42	33.75	5.61	24.72	324	0.10
69	16.00	33.68	5.61	320	50	16.34	33.72	5.62	24.70	325	0.16
78	15.82	33.60	5.64	322	75	15.92	33.63	5.61	24.74	322	0.24
93	14.08	33.55	5.54	290	100	13.30	33.52	5.38	25.22	276	0.32
107	12.86	33.51	5.23	269							

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m
STRANGER; March 19, 1958; 0558 GCT; 29°02.5'N, 117°40.5'W; sounding, 2000 fm; wind, 360°, force 4; weather, cloudy; sea, rough; wire angle, 15°.											110.60
0	16.60	33.66	5.60	335	0	16.60	33.66	5.60	24.60	335	0.00
10	16.66	33.70	5.58	333	10	16.66	33.70	5.58	24.62	333	0.03
29	16.43	33.65	5.57	332	20	16.57	33.68	5.58	24.63	332	0.07
58	16.40	33.64	5.54	331	30	16.43	33.65	5.57	24.64	331	0.10
68	16.40	33.64	5.49	332	50	16.40	33.65	5.55	24.64	331	0.17
77	16.36	33.68	5.55	328	75	16.38	33.67	5.54	24.66	329	0.25
91	15.30	33.57	5.49	313	100	14.46	33.52	5.40	24.98	299	0.33
105	14.02	33.51	5.33	292	150	11.26	33.66	3.98	25.70	230	0.46
119	12.66	33.53	4.66	264	200	9.15	33.84	3.29	26.21	182	0.56
138	11.78	33.61	4.24	242	250	8.38	33.99	2.43	26.45	159	0.65
156	11.00	33.68	3.75	224	300	7.98	34.12	1.77	26.61	144	0.73
181	9.60	33.70	3.59	199	400	7.24	34.27	0.76	26.83	123	0.87
203	9.10	33.86	3.18	180	500	6.50	34.33	0.46	26.98	108	0.99
251	8.35	33.99	2.41	158							
326	7.81	34.18	1.48	137							
425	7.04	34.29	0.67	119							
554	6.04	34.36	0.34	101							
STRANGER; March 17, 1958; 2030, 2104 GCT; 28°42'N, 116°40'W; sounding, 2000 fm; wind, calm; weather, partly cloudy; sea, slight; wire angle, 00°, 08°.											113.50
0	16.85	33.70	5.50	337	0	16.85	33.70	5.50	24.58	337	0.00
10	16.58	33.68	5.56	332	10	16.58	33.68	5.56	24.63	332	0.03
30	16.26	33.66	5.52	327	20	16.37	33.67	5.54	24.66	329	0.07
55	16.24	33.68	5.55	325	30	16.26	33.66	5.52	24.68	327	0.10
64	16.19	33.65	5.63	326	50	16.24	33.67	5.54	24.69	326	0.16
73	16.16	33.67	5.53	324	75	16.02	33.66	5.55	24.74	322	0.24
83	14.72	33.57	5.57	301	100	13.59	33.65	5.02	25.25	273	0.32
					150	11.06	33.88	3.13	25.92	210	0.44
101	13.58	33.66	4.56	272	200	10.06	34.19	1.95	26.32	171	0.54
115	12.96	33.75	3.79	253	250	9.36	34.30	1.35	26.54	151	0.62
133	11.86	33.86	3.14	225	300	8.95	34.42	0.85	26.70	136	0.70
149	11.20	33.88	3.17	212	400	7.82	34.41	0.36	26.86	120	0.83
171	10.42	33.94	2.72	195	500	6.73	34.39	0.36	27.00	107	0.95
193	10.13	34.13	2.00	176							
236	9.44	34.27	1.42	155							
307	8.89	34.42	0.75	135							
397	7.85	34.41	0.37	120							
517	6.56	34.38	0.36	105							
STRANGER; March 18, 1958; 0154 GCT; 28°24'N, 117°16'W; sounding, 2000+ fm; wind, 320°, force 4; weather, partly cloudy; sea, moderate; wire angle, 03°.											113.60
0	17.54	34.00	5.39	331	0	17.54	34.00	5.39	24.64	331	0.00
10	17.51	34.02	5.47	329	10	17.51	34.02	5.47	24.66	329	0.03
30	17.22	34.03	5.42	322	20	17.38	34.03	5.44	24.70	326	0.06
60	17.36	34.13	5.35	317	30	17.22	34.03	5.42	24.74	322	0.10
70	17.37	34.12	5.30	318	50	17.36	34.09	5.36	24.77	319	0.16
80	17.28	34.07	5.31	320	75	17.34	34.09	5.31	24.77	319	0.24

S10

CCOFI 5803

OBSERVED					INTERPOLATED				COMPUTED		
Z m	T °C	S ‰	O_2 ml/L	δT_3 10^{-5} cm/g	Z m	T °C	S ‰	O_2 ml/L	σ_t g/L	δT_3 10^{-5} cm/g	ΔD dyn. m

117.50 STRANGER; March 16, 1958; 1602 GCT; 28°08'N, 116°15'W; sounding, 2000+ fm; wind, 320°, force 2; weather, cloudy; sea, slight; wire angle, 02°.

0	16.66	33.69	5.46	334	0	16.66	33.69	5.46	24.61	334	0.00
10	16.63	33.75	5.47	329	10	16.63	33.75	5.47	24.66	329	0.03
30	16.56	33.69	5.47	330	20	16.60	33.72	5.47	24.65	330	0.07
55	16.52	33.69	5.46	330	30	16.56	33.69	5.47	24.65	330	0.10
66p	16.56	33.73	5.52	328	50	16.50	33.69	5.46	24.65	330	0.16
71p	16.48	33.75	5.56	326	75	16.27	33.77	5.55	24.76	319	0.25
82p	15.69	33.82	5.42	303	100	13.40	33.65	5.17	25.29	269	0.32
93p	14.16	33.68	5.37	282	150	10.81	33.94	2.81	26.00	202	0.44
106p	12.92	33.64	4.96	261	200	10.09	34.21	1.98	26.34	169	0.54
120p	11.73	33.57	4.73	244	250	9.20	34.33	1.23	26.59	146	0.62
137p	11.12	33.76	3.66	220	300	8.66	34.40	0.86	26.72	133	0.69
155p	10.42	33.94	2.77	194	400	7.58	34.40	0.44	26.88	118	0.82
190p	10.10	34.15	1.99	174							
249p	9.20	34.33	1.23	146							
321p	8.48	34.42	0.72	129							
423p	7.22	34.38	0.38	114							

120.50 STRANGER: March 15, 1958; 0615 GCT; 27°34.5'N, 115°53.5'W; sounding, 2000+ fm: wind, 320°, force 3; weather, partly cloudy; sea, moderate; wire angle, 19°.

0	16.60	33.79	5.57	325	0	16.60	33.79	5.57	24.70	325	0.00
10	16.58	33.85	5.44	320	10	16.58	33.85	5.44	24.76	320	0.03
28	16.80	34.00	5.34	314	20	16.70	33.92	5.37	24.78	318	0.06
57	16.40	34.02	5.04	304	30	16.78	34.00	5.29	24.83	313	0.10
66	15.90	33.95	4.84	298	50	16.53	34.02	5.10	24.90	306	0.16
75	14.86	33.87	4.16	282	75	14.86	33.87	4.16	25.16	282	0.23
89	12.84	33.73	3.73	252	100	12.42	33.81	3.27	25.60	239	0.30
102	12.38	33.82	3.23	238	150	10.30	34.03	2.38	26.17	186	0.40
115	11.78	33.95	2.66	217	200	9.55	34.23	1.55	26.45	159	0.49
131	11.44	34.06	2.19	203	250	9.10	34.36	0.97	26.62	142	0.57
147	10.43	34.03	2.39	188	300	8.55	34.39	0.74	26.73	132	0.64
171	9.82	34.07	2.26	176	400	7.56	34.39	0.37	26.88	118	0.77
190	9.61	34.18	1.84	164	500	6.53	34.40	0.32	27.04	104	0.89
234	9.26	34.34	1.09	146							
304	8.52	34.39	0.73	132							
396	7.60	34.39	0.39	119							
519	6.31	34.40	0.32	101							

120.80 STRANGER; March 15, 1958; 1955 GCT; 26°39'N, 117°51'W; sounding, 2000+ fm; wind, calm; weather, clear; sea, slight; wire angle, 00°.

0	19.06	33.94	5.77	372	0	19.06	33.94	5.77	24.21	372	0.00
10	17.50	33.91	5.53	337	10	17.50	33.91	5.53	24.58	337	0.04
30	17.36	33.91	5.42	333	20	17.41	33.91	5.52	24.60	335	0.07
55	17.35	33.91	5.41	332	30	17.36	33.91	5.42	24.62	333	0.10
64	17.31	33.93	5.44	331	50	17.35	33.91	5.41	24.63	332	0.17
74	17.31	33.89	5.42	333	75	17.30	33.89	5.42	24.61	334	0.25
83	17.30	33.88	5.44	334							

OBSERVED					INTERPOLATED				COMPUTED		
Z	T	S	O_2	δ_{T_3}	Z	T	S	O_2	σ_t	δ_{T_3}	ΔD
m	°C	‰	ml/L	10^{-5} cm/g	m	°C	‰	ml/L	g/L	10^{-5} cm/g	dyn. m

STRANGER; March 10, 1958; 0532, 0612 GCT; 24°55'N, 113°30.5'W; sounding, 2100 fm; wind, 320°, force 5; weather, cloudy; sea, very rough; wire angle, 03°, 04°. 137.40

0	19.32	34.57	5.52	332	0	19.32	34.57	5.52	24.64	332	0.00
10	19.36	34.56	5.04	333	10	19.36	34.56	5.04	24.62	333	0.03
30	19.26	34.57	5.09	330	20	19.30	34.56	5.06	24.64	332	0.07
59	19.16	34.55	5.00	329	30	19.26	34.57	5.09	24.65	330	0.10
68	16.91	34.19	4.18	303	50	19.18	34.56	5.04	24.66	329	0.16
78	14.33	33.89	3.77	270	75	15.38	33.99	3.92	25.13	284	0.24
92	12.88	33.87	3.12	243	100	12.78	33.94	2.95	25.64	236	0.31
106	12.68	34.15	1.94	219	150	11.27	34.28	1.24	26.19	184	0.41
119	12.04	34.23	1.58	202	200	11.03	34.58	0.48	26.45	159	0.50
138	11.96	34.34	1.09	191	250	10.70	34.60	0.28	26.54	151	0.58
155	11.25	34.34	1.22	179	300	10.00	34.59	0.26	26.66	140	0.66
183	10.20	34.27	1.62	167	400	8.42	34.54	0.20	26.86	120	0.79
					500	7.22	34.48	0.12	27.00	107	0.91
205	11.14	34.60	0.38	158							
255	10.66	34.60	0.28	150							
334	9.44	34.58	0.26	132							
437	7.99	34.51	0.17	115							
571	6.37	34.45	0.11	97							

STRANGER; March 7, 1958; 2109 GCT; 23°04.5'N, 111°02'W; sounding, 800 fm; wind, 310°, force 2; weather, partly cloudy; sea, moderate; wire angle, 07°. 150.25

0	22.44	34.71	5.29	402	0	22.44	34.71	5.29	23.90	402	0.00
10	22.12	34.72	5.04	393	10	22.12	34.72	5.04	23.99	393	0.04
30	21.78	34.71	5.02	384	20	21.97	34.72	5.02	24.04	388	0.08
45	20.64	34.63	5.56	360	30	21.78	34.71	5.02	24.08	384	0.12
55	20.39	34.70	3.61	349	50	20.52	34.64	4.26	24.38	356	0.19
65	20.05	34.85	3.31	330	75	19.68	34.83	2.95	24.74	322	0.28
75	19.68	34.83a)	2.95	322	100	15.40	34.34	1.92	25.40	259	0.35
95	16.14	34.27	2.23	280	150	12.25	34.43	1.08	26.11	191	0.46
109	14.72	34.41	1.50	240	200	11.50	34.61	0.52	26.40	164	0.55
123	13.96	34.43	1.15	222	250	10.81	34.61	0.30	26.52	152	0.64
148	12.72	34.48	0.86	195	300	10.13	34.60	0.23	26.64	141	0.71
175	11.84	34.52	0.65	176	400	9.01	34.58	0.19	26.81	125	0.85
211	11.39	34.63	0.47	160	500	7.63	34.53	0.13	26.98	108	0.97
262	10.61	34.60	0.24	149							
339	9.76	34.61	0.23	134							
435	8.56	34.56	0.14	120							
570	6.65	34.52	0.13	96							

STRANGER; March 7, 1958; 1408 GCT; 22°35'N, 111°59'W; sounding, 1900 fm; wind, 320°, force 3; weather, cloudy; sea, moderate; wire angle, 06°. 150.40

0	22.10	34.66	6.38u	397	0	22.10	34.66	(5.01)	23.95	397	0.00
10	22.10	34.65	5.01	398	10	22.10	34.65	5.01	23.94	398	0.04
30	21.14	34.70	4.92	368	20	22.03	34.66	5.01	23.97	395	0.08
55	20.63	34.69	4.87	356	30	21.14	34.70	4.92	24.25	368	0.12
69p	20.39	34.65	5.09	353	50	20.73	34.70	4.87	24.36	358	0.19
91p	19.70	34.54	4.66	344	75	20.22	34.62	5.03	24.43	351	0.28
114p	15.91	34.29	2.18	273	100	18.22	34.42	3.64	24.79	317	0.36
142p	14.19	34.62	0.53	213	150	13.78	34.62	0.54	25.96	206	0.49
188p	12.42	34.58	0.69	182	200	12.22	34.59	0.63	26.25	178	0.59
234p	11.60	34.70	0.34	159	250	11.34	34.70	0.27	26.50	154	0.68
310p	10.40	34.66	0.14	141	300	10.56	34.67	0.16	26.62	143	0.76
403p	8.80	34.56	0.22	123	400	8.84	34.57	0.23	26.82	124	0.89
528p	7.24	34.52	0.22	104	500	7.56	34.53	0.22	26.98	108	1.02

a) Possible evaporation; value falls on property curve.

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S	50 Meters T	50 Meters S
82.47-B	III-4	2035	34°15.0'	119°58.0'	300	300°	4	clear	rough	14.90	33.57	14.96	33.58
83.40-B	5	0035	34°14.0'	119°22.0'	12	280°	3	clear	moderate	15.40	33.57	-	-
83.43-B	5	0227	34°08.0'	119°34.0'	120	240°	3	partly cloudy	moderate	15.36	33.57	14.24	33.58
83.51-B	5	0758	33°52.0'	120°08.5'	65	290°	6	clear	rough	14.96	33.58	14.60	33.58
83.55-B	5	1023	33°44.0'	120°24.5'	800	280°	6	clear	high	14.02	33.58	12.58	33.58
83.60-B	5	1330	33°34.0'	120°45.0'	800	320°	4	partly cloudy	rough	14.34	33.48	13.97	33.53
83.70-B	5	1938	33°14.5'	121°26.0'	2100	300°	5	partly cloudy	rough	14.77	33.42	14.70	33.42
87.35-B	8	0550	33°50.0'	118°37.0'	300	calm		clear	rough	15.48	33.62	12.91	33.55
87.40-B	8	0835	33°40.0'	118°58.5'	460	var.	1	partly cloudy	moderate	14.60	33.60	14.32	33.58
87.45-B	8	1140	33°32.0'	119°19.0'	917	270°	2	partly cloudy	moderate	14.66	33.58	12.56	33.57
87.50-B	8	1443	33°20.0'	119°39.5'	42	320°	4	partly cloudy	rough	13.96	33.58	12.06	33.55
87.55-B	8	1757	33°10.0'	120°00.5'	650	300°	4	partly cloudy	moderate	13.88	33.58	13.61	33.56
87.60-B	8	2053	33°00.0'	120°21.5'	395	290°	7	partly cloudy	rough	14.78	33.48	14.61	33.49
87.70-B	6	1625	32°39.5'	121°02.0'	2098	310°	7	cloudy	very rough	15.34	33.55	15.29	33.57
90.28-B	7	2318	33°28.5'	117°46.5'	250	070°	4	partly cloudy	rough	15.24	33.51	13.19	33.52
90.50-B	12	1618	32°44.5'	119°16.5'	160	340°	4	partly cloudy	rough	14.38	33.55	14.20	33.55
93.27-B	9	1520	32°56.0'	117°19.0'	50	100°	4	partly cloudy	moderate	15.28	33.59	12.46	33.58
93.30-B	9	1710	32°50.0'	117°31.5'	460	300°	1	partly cloudy	moderate	15.70	33.64	13.68	33.54
93.35-B	9	2035	32°40.0'	117°52.0'	350	280°	3	cloudy	rough	15.46	33.60	15.35	33.58

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S	50 Meters T	50 Meters S
93.40-B	III-9	2335	32°30.0'	118°12.5'	925	280°	5	partly cloudy	very rough	15.82	33.64	15.72	33.66
93.45-B	10	0215	32°20.0'	118°32.5'	900	330°	4	partly cloudy	rough	15.56	33.59	14.52	33.55
93.50-B	10	0525	32°10.0'	118°53.5'	730	320°	5	clear	very rough	14.91	33.56	14.84	33.53
93.60-B	10	1211	31°52.0'	119°26.0'	1200	300°	5	partly cloudy	very rough	15.20	33.55	15.21	33.56
93.70-B	10	1941	31°29.0'	120°14.0'	2000	300°	5	overcast	high	15.28	33.55	15.30	33.57
93.80-B	11	0200	31°10.0'	120°54.5'	2000	300°	7	rain	very rough	15.40	33.55	15.22	33.55
97.30-B	15	0505	32°15.5'	117°09.0'	33	calm		partly cloudy	slight	15.62	-	13.96	33.58
97.32-B	15	0625	32°11.5'	117°17.0'	750	calm		partly cloudy	slight	15.56	33.66	13.74	33.58
97.40-B	15	1028	31°55.5'	117°50.0'	700	090°	1	partly cloudy	smooth	15.64	33.53	15.53	33.58
97.45-B	15	1340	31°45.0'	118°10.0'	700	160°	2	partly cloudy	slight	15.66	33.53	15.50	33.55
97.50-B	15	1653	31°35.5'	118°30.5'	1300	180°	3	partly cloudy	moderate	15.46	33.51	15.31	-
97.60-B	15	2222	31°15.5'	119°10.5'	1900	200°	3	cloudy	moderate	15.58	33.48	15.46a)	33.51
97.70-B	16	0435	30°55.0'	119°50.5'	2000	170°	4	missing	moderate	15.26	33.48	15.22	33.53
97.80-B	16	1055	30°35.5'	120°31.0'	2100	180°	4	rain	rough	14.85b)	33.34	14.52c)	33.30
100.30-B	18	0540	31°40.5'	116°46.5'	220	320°	4	partly cloudy	moderate	15.64	33.59	12.89	33.55

a) Mean value of 15.37 and 15.55°C.

b) Mean value of 14.77 and 14.93°C.

c) Mean value of 14.57 and 14.46°C.

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S	50 Meters T	50 Meters S
100.32-B	III-18	0345	31°35.5'	116°54.5'	600	320°	4	partly cloudy	moderate	15.98	33.57	13.28	33.49
100.40-B	17	2210	31°19.0'	117°29.0'	1050	320°	4	partly cloudy	moderate	16.76	33.71	16.60	33.73
100.45-B	17	1925	31°10.5'	117°47.0'	650	310°	4	cloudy	moderate	16.60	33.71	16.42	33.72
100.50-B	17	1645	31°01.0'	118°07.0'	925	320°	3	cloudy	moderate	16.73	33.87	16.78	33.78
100.60-B	17	1110	30°37.5'	118°47.5'	1550	200°	2	missing	slight	16.22	33.60	16.48	33.75
100.70-B	17	0550	30°19.0'	119°27.0'	2000	270°	1	missing	slight	15.42	33.33	14.98	33.40
100.80-B	17	0028	30°01.0'	120°07.0'	2000	220°	2	cloudy	moderate	15.91	33.55	14.98	-
100.90-B	16	1940	29°40.5'	120°47.0'	2100	200°	2	cloudy	moderate	16.26	33.58	16.05	33.60
103.30-B	18	1055	31°05.0'	116°25.0'	40	290°	5	clear	very rough	15.58	33.60	12.85	33.54
103.35-B	18	1355	30°55.5'	116°45.0'	1000	320°	5	clear	rough	15.74	33.55	14.21	33.46
103.40-B	18	1655	30°45.5'	117°05.5'	900	300°	5	cloudy	rough	15.98	33.60	15.94	33.62
103.45-B	18	2015	30°36.5'	117°25.0'	1100	320°	4	cloudy	rough	16.47	33.74	16.34	33.58
103.50-B	18	2310	30°25.5'	117°45.5'	1400	330°	4	cloudy	moderate	16.36	33.67	15.81	33.60
103.60-B	19	0440	30°06.0'	118°25.5'	2100	320°	3	clear	moderate	16.02	33.56	16.06	33.62
103.70-B	19	0955	29°45.0'	119°10.0'	1800	320°	2	clear	moderate	15.40	33.28	15.05	33.30
107.32-B	20	1405	30°26.0'	116°11.0'	300	missing		fog	slight	16.21	33.58	15.88	33.51
107.35-B	20	1200	30°20.0'	116°23.0'	900	calm		cloudy	slight	15.90	33.62	15.01	33.59
107.40-B	20	0905	30°10.5'	116°43.5'	1500	010°	3	missing	slight	16.02	33.62	15.84	33.62
107.45-B	20	0620	30°00.0'	117°03.0'	850	010°	2	missing	slight	16.08	33.60	15.56	33.58

TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S	50 Meters T	50 Meters S
107.70-B	III-19	1600	29°11.0'	118°43.0'	1800	360°	3	cloudy	moderate	16.65	33.73	16.59	33.81
110.33-S	19	2100	29°57.0'	115°55.0'	68	340°	4	clear	rough	15.94	33.63	11.89	33.56
110.35-S	19	1900	29°49.0'	116°11.0'	700	320°	4	clear	rough	16.06	33.64	15.94	33.62
110.40-S	19	1630	29°39.0'	116°30.0'	1150	350°	4	partly cloudy	rough	16.35	33.68	16.08	33.60
110.45-S	19	1415	29°29.0'	116°48.0'	550	350°	4	cloudy	rough	16.04	33.62	16.04	33.62
110.70-S	19	0130	28°41.0'	118°21.0'	2000	340°	4	cloudy	moderate	17.56	34.02	17.26	34.03
110.80-S	18	2100	28°20.0'	119°00.0'	2000+	350°	3	cloudy	rough	17.82	34.02	17.72	34.07
110.90-S	18	1600	28°00.0'	119°36.0'	2000+	360°	3	overcast	moderate	17.06	33.85	16.79	33.84
113.30-S	17	1030	29°22.5'	115°17.5	30	260°	1	overcast	slight	16.62	34.02	15.00	33.93
113.35-S	17	1310	29°12.0'	115°39.0'	500	320°	3	drizzle	moderate	16.28	33.68	15.99	33.65
113.40-S	17	1540	29°02.0'	115°58.5'	950	300°	3	drizzle	moderate	16.50	33.66	16.28	33.69
113.45-S	17	1800	28°52.0'	116°18.0'	1200	290°	2	cloudy	moderate	16.55	33.66	16.16	33.64
113.70-S	18	0730	28°05.0'	117°56.0'	2000+	320°	3	clear	moderate	17.68	33.96	17.29	33.94
117.26-S	17	0615	28°56.0'	114°41.0'	36	calm		drizzle	slight	16.80	33.93	15.42	33.87
117.30-S	17	0430	28°48.0'	114°56.5'	52	250°	2	overcast	slight	16.00	33.84	14.26	33.85
117.35-S	17	0200	28°38.0'	115°16.0'	95	320°	2	overcast	slight	16.18	33.62	15.90	33.63
117.40-S	16	2145	28°28.0'	115°35.5'	500	270°	1	overcast	slight	16.38	33.68	16.23	33.66
117.45-S	16	1930	28°18.0'	115°55.0'	1700	260°	2	cloudy	slight	16.58	33.68	16.46	33.68
117.60-S	16	1140	27°47.5'	116°54.0'	2000+	calm		cloudy	slight	16.64	33.70	16.50	33.68

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TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S	50 Meters T	50 Meters S
117.70-S	III-16	0730	27°27.5'	117°32.5'	2000+	320°	1	cloudy	slight	17.40	33.98	17.04	33.96
118.39-S	16	2330	28°18.5'	115°24.0'	135	270°	1	overcast	slight	16.31	33.73	16.48	33.93
119.33-S	14	1515	28°19.0'	114°53.0'	55	320°	3	clear	moderate	16.44	33.91	16.71	34.06
120.25-S	14	1845	28°23.0'	114°14.5'	26	300°	2	clear	moderate	17.07	34.11	-	-
120.30-S	14	2100	28°13.0'	114°34.0'	48	320°	3	clear	moderate	16.11	33.73	15.24	33.68
120.35-S	14	2315	28°03.0'	114°54.0'	42	330°	4	clear	moderate	16.84	33.89	16.63	33.92
120.40-S	15	0120	27°56.5'	115°14.0'	20	320°	6	clear	rough	16.46	34.01	-	-
120.45-S	15	0345	27°45.0'	115°34.0'	1100	320°	3	clear	rough	16.64	34.00	14.32	33.87
120.60-S	15	1115	27°19.0'	116°34.0'	2000+	320°	2	clear	moderate	17.70	34.07	17.04	33.94
120.70-S	15	1540	26°59.0'	117°13.5'	2000+	calm		partly cloudy	moderate	17.30	33.93	16.87	33.87
120.90-S	15	2330	26°25.0'	118°18.0'	2000+	320°	1	cloudy	slight	18.58	34.17	18.36	34.17
123.37-S	13	1045	27°24.0'	114°39.5'	38	330°	2	cloudy	slight	16.24	33.90	13.87	34.00
123.42-S	13	0800	27°13.5'	114°59.5'	700	330°	3	cloudy	rough	16.66	33.93	16.64	33.95
123.50-S	13	0420	26°53.5'	115°34.0'	2000	310°	2	partly cloudy	rough	16.76	33.89	16.70	33.89
123.60-S	12	2345	26°34.0'	116°12.0'	2000	310°	3	cloudy	very rough	16.96	33.86	16.76	33.86
127.34-S	12	0715	26°55.5'	114°06.0'	43	300°	3	partly cloudy	rough	17.29	34.23	17.09	34.21
127.40-S	12	1000	26°43.5'	114°29.5'	1700	260°	3	rain	rough	17.00	34.27	16.94	34.22
127.45-S	12	1230	26°33.0'	114°50.0'	2000	320°	3	cloudy	moderate	16.68	33.91	16.92	34.04
127.50-S	12	1500	26°20.0'	115°09.0'	2050	320°	3	partly cloudy	rough	17.34	34.02	17.35	34.01

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S	50 Meters T	50 Meters S
127.60-S	III-12	1920	26°00.0'	115°47.0'	2000	300°	3	overcast	very rough	19.05	34.51	18.62	34.43
130.30-S	12	0230	26°26.0'	113°29.0'	40	320°	4	cloudy	rough	18.14	34.42	17.73	34.34
130.35-S	12	0015	26°16.0'	113°45.0'	600	320°	3	partly cloudy	rough	18.06	34.33	17.98a)	34.33
130.40-S	11	2145	26°04.0'	114°03.0'	1250	290°	3	partly cloudy	rough	18.14	34.35	17.65	34.33
130.45-S	11	1915	25°53.0'	114°20.5'	2150	300°	3	partly cloudy	rough	18.16	34.33	18.13	34.33
130.50-S	11	1700	25°41.5'	114°38.5'	2200	300°	3	cloudy	very rough	18.47	34.43	18.49	34.43
130.60-S	11	1220	25°27.0'	115°16.0'	2100	320°	5	overcast	high	19.38	34.46	19.37	34.47
133.25-S	10	1845	25°55.5'	112°48.5'	50	300°	1	partly cloudy	moderate	18.66	34.52	18.25	34.47
133.30-S	10	2045	25°49.0'	113°01.0'	110	290°	2	clear	moderate	19.26	34.60	19.18	34.60
133.35-S	10	2315	25°39.0'	113°24.0'	370	310°	4	partly cloudy	rough	19.71	34.54	19.54	34.53
133.40-S	11	0145	25°31.0'	113°44.0'	800	320°	4	partly cloudy	rough	18.82	34.47	18.38	34.42
133.50-S	11	0615	25°14.5'	114°24.0'	2100	320°	4	partly cloudy	rough	19.22	34.45	18.78	34.36
137.23-S	10	1430	25°26.0'	112°26.5'	45	330°	3	partly cloudy	rough	19.45	34.62	18.84b)	34.56
137.30-S	10	1145	25°14.0'	112°50.5'	210	340°	4	partly cloudy	rough	19.42	34.61	19.18	34.63
137.35-S	10	0915	25°04.0'	113°11.0'	900	330°	4	cloudy	rough	19.94	34.56	19.73	34.61

a) Mean value of 17.91 and 18.04°C.

b) Mean value of 18.79 and 18.90°C.

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TEMPERATURE AND SALINITY AT 10 AND 50 METERS (NET-TOW STATIONS)

Station	Date	Time GCT	Latitude North	Longitude West	Sounding (fm)	Wind Dir	Wind Force	Weather	Sea	10 Meters T	10 Meters S	50 Meters T	50 Meters S
137.50-S	III-10	0100	24°40.0'	114°02.0'	1900	320°	5	partly cloudy	very rough	19.94	34.52	19.76	34.49
140.30-S	9	0940	24°43.5'	112°26.0'	65	320°	3	partly cloudy	rough	20.08	34.54	19.59	34.52
140.35-S	9	1200	24°36.0'	112°43.0'	700	320°	3	clear	rough	19.94	34.51	18.08	34.16
140.40-S	9	1435	24°25.0'	113°04.0'	2000	320°	5	cloudy	rough	19.84	34.49	19.45	34.57
140.50-S	9	1930	24°04.0'	113°42.0'	1950	320°	4	partly cloudy	rough	19.17	34.44	18.94	34.46
143.26-S	9	0440	24°19.0'	111°48.0'	45	340°	3	partly cloudy	rough	19.89	34.64	18.85	34.54
143.30-S	9	0245	24°11.0'	112°03.0'	110	320°	4	partly cloudy	rough	20.25	34.60	19.98	34.64
143.35-S	8	2345	24°00.0'	112°23.0'	1300	320°	3	partly cloudy	rough	20.76	34.62	20.48	34.60
143.40-S	8	2115	23°51.0'	112°40.5'	1850	320°	3	partly cloudy	rough	20.72	34.66	20.36a)	34.61
147.20-S	8	0610	23°56.0'	111°03.5'	80	360°	4	clear	rough	21.62	34.70	19.21	34.52
147.25-S	8	0830	23°46.5'	111°22.5'	250	340°	4	clear	rough	20.51	34.67	20.28	34.64
147.40-S	8	1600	23°17.0'	112°20.0'	1900	320°	3	partly cloudy	moderate	20.86	34.69	20.86	34.66
150.19-S	8	0125	23°23.5'	110°39.0'	225	310°	4	partly cloudy	moderate	22.27	34.68	21.97	34.66
150.30-S	7	1840	22°54.5'	111°21.0'	1700	-	1	partly cloudy	rough	21.21	34.67	20.45	34.59

a) Mean value of 20.42 and 20.30°C.

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